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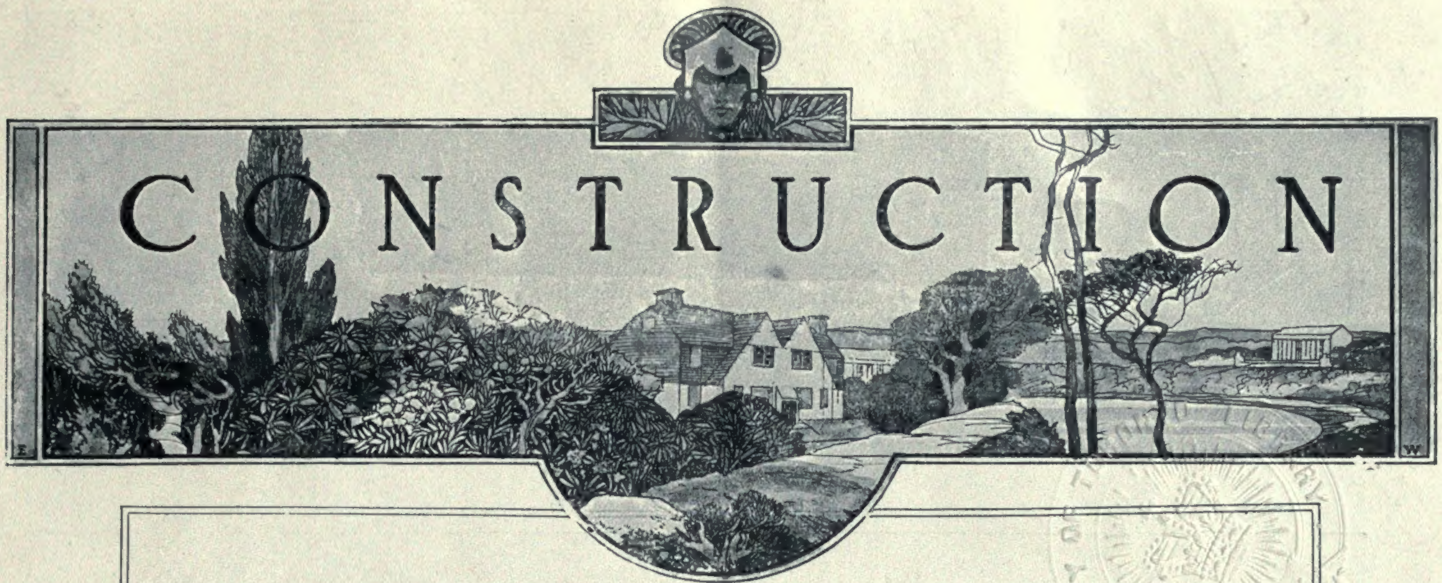

CONSTRUCTION

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January, 1919 Volume XII, No. 1

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THE LATE EDMUND BURKE, TORONTO 10

H. GAGNIER, Limited, Publishers
GRAPHIC ARTS BLDG., TORONTO, CANADA
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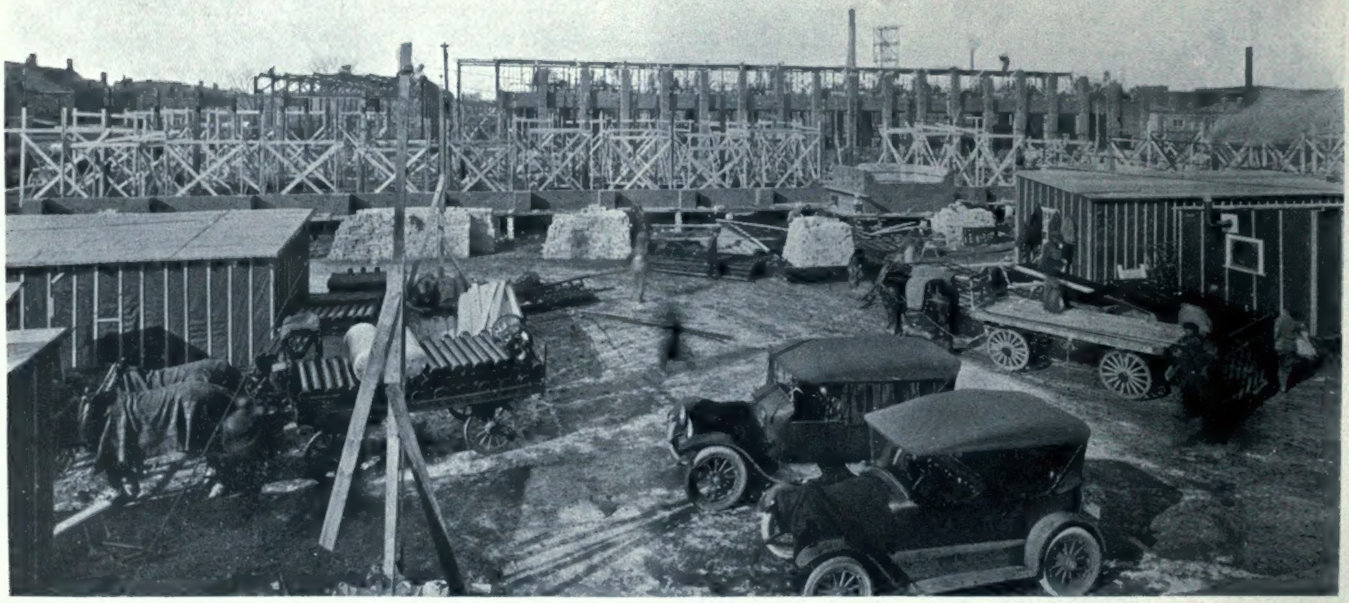
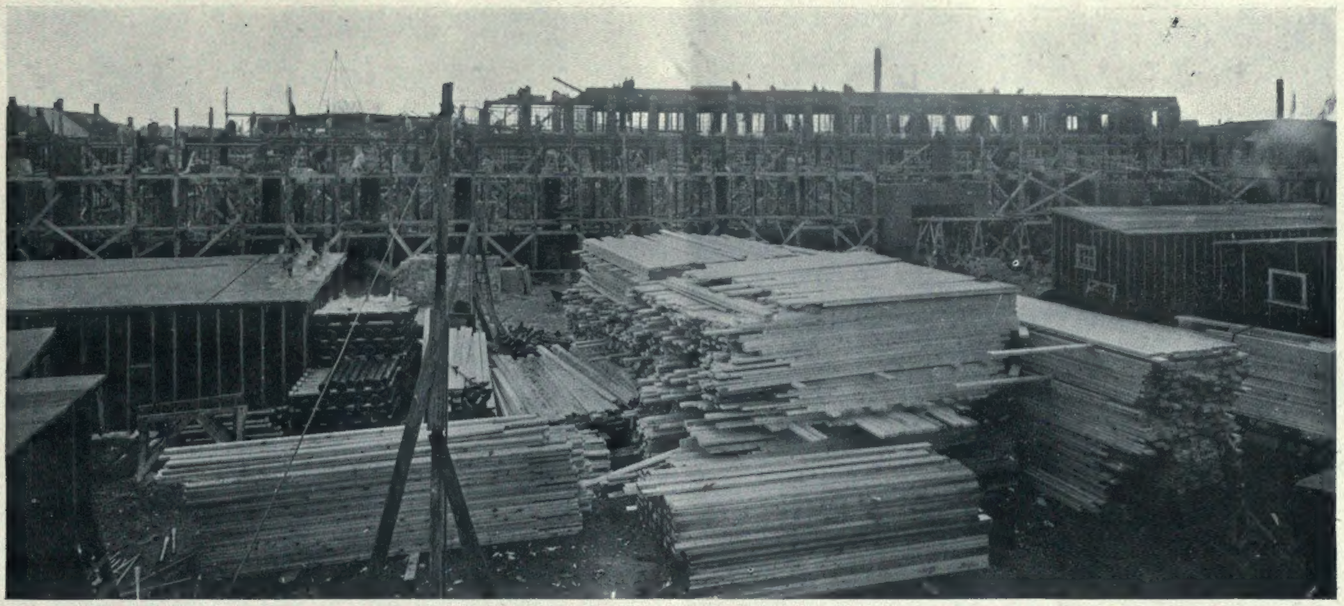
MONTREAL NEW YORK



PROGRESS VIEWS, FACTORY OF THE CANADIAN AEROPLANES LIMITED, TORONTO.

(1). Digging foundations February 1st, 1917. (2). First building operations, February 16th, 1917. (3). Metal Shop and Fuselage Buildings, March 1st, 1917.



METAL SHOP AND FUSELAGE BUILDING, MARCH 15TH, 1917.

Canadian Aeroplanes Limited, Toronto

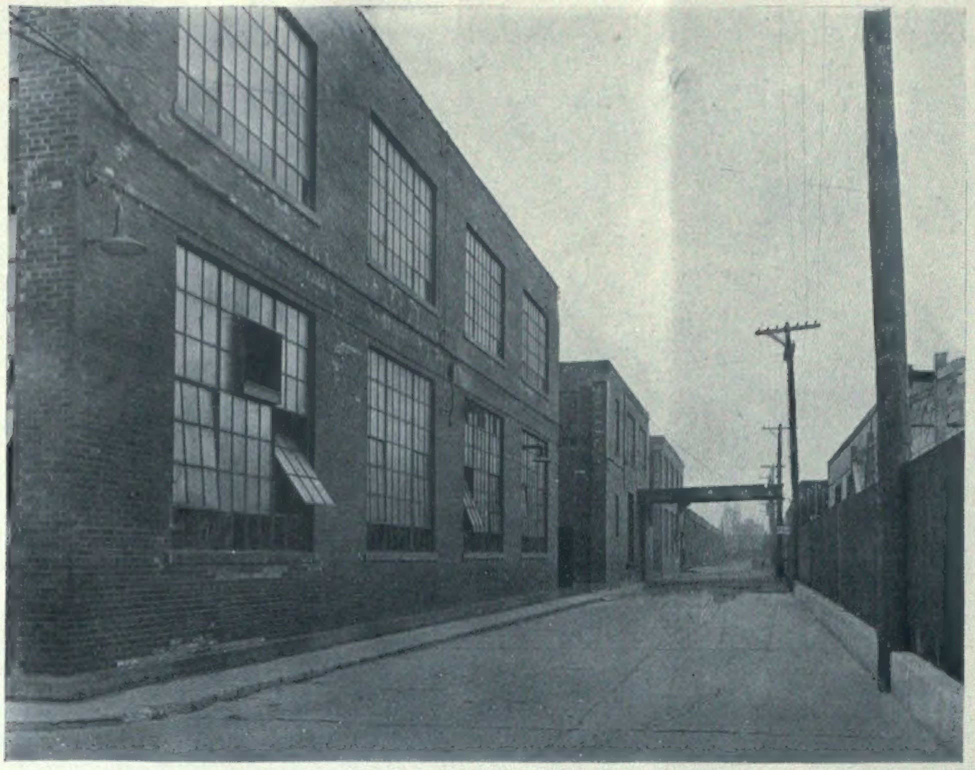
WHEN the British Government decided to train pilots in Canada about two years back, the question was how soon could arrangements be made to produce aeroplanes in this country, as machines could not be imported from England, and the United States had no equipment of this kind to spare.

Mr. F. W. Baillie, now Sir Frank Baillie, was asked to undertake the organization of this work, with results which are now pretty much a matter of history. As an instance of manufacturing enterprise and productive capacity, the factory of the Canadian Aeroplanes, Limited, stands as an important war-time achievement. As a building undertaking, it represents an accomplishment which for speed of construction and organizing ability and resourcefulness has never perhaps been exceeded anywhere.

Ten acres of buildings started and completed in sixty-six actual working days is the record established—a feat all the more remarkable when the adverse weather conditions under which the work was carried out is taken into consideration. The group altogether comprises a storage and office building, metal shop, woodworking mill, fuselage building, winged panel building, power house, boiler house, experimental building, wood drying house, garage, and timekeeper's office.

Before the work was started an investigation was made of all possible sites in the vicinity of Toronto suitable for the erection of such a plant. It was necessary to get a level property, if possible, which could be served by railway facilities and be well-placed as regards the labor market. Such a property, comprising

PROGRESS VIEWS, APRIL 19TH, 1917, SHOWING FUSELAGE AND WING BUILDINGS PRACTICALLY COMPLETED, WITH EXPERIMENTAL BUILDING TO RIGHT.



CANADIAN AEROPLANES LIMITED, TORONTO, VIEW ALONG PRIVATE THOROUGHFARE KNOWN AS BAILLIE AVENUE.

approximately ten acres, was found just north of Lappin avenue on Dufferin street. On February 1st, 1917, the same day the property was purchased, teams were put to work breaking up the frozen ground, and construction started on the erection of permanent buildings that would be suitable for general manufacturing purposes after the war.

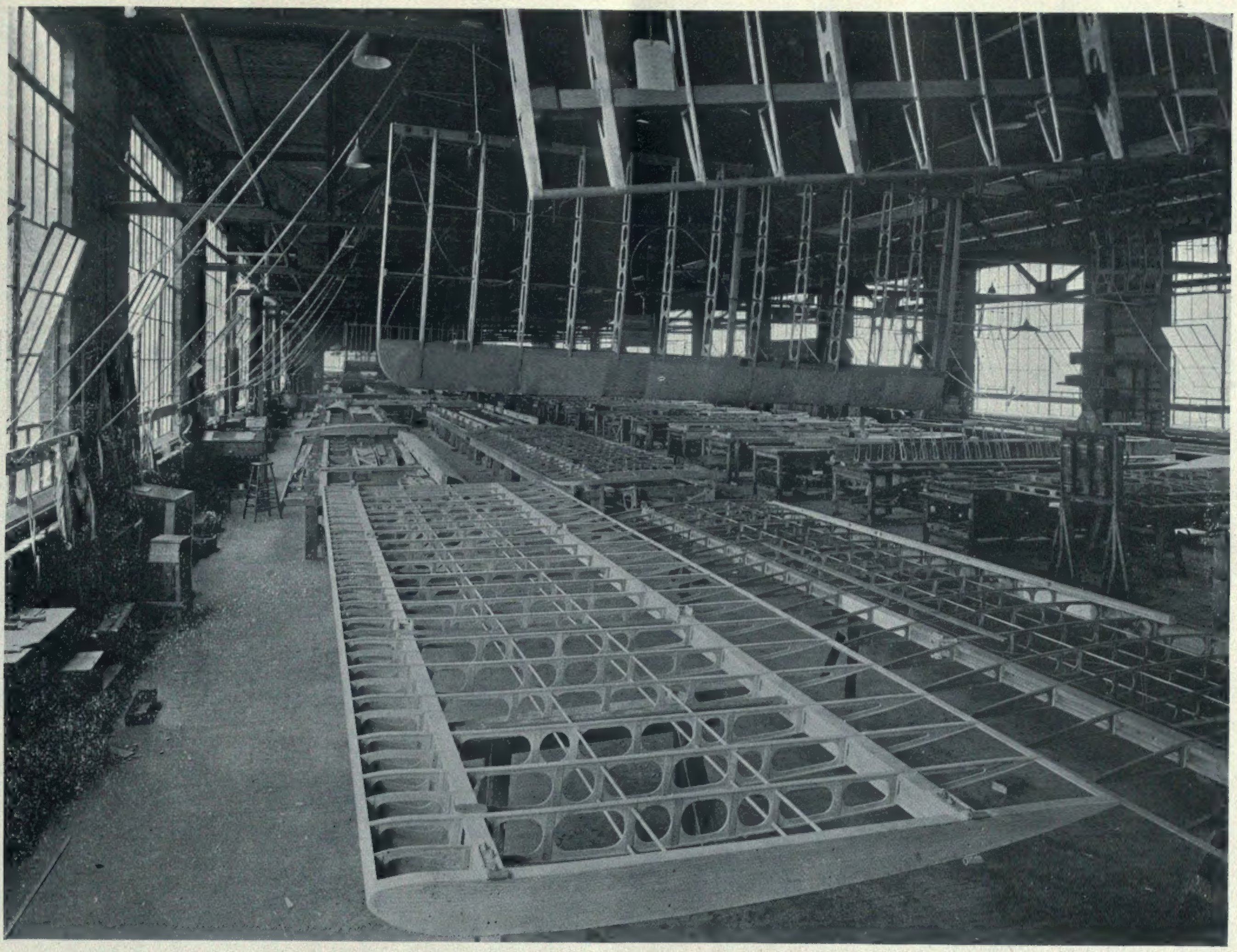
Immediately on acquiring the site the architect was instructed to begin work on the plans according to requirements previously determined at a preliminary meeting held with Sir Frank Baillie and General Manager E. T. Musson and his staff. The general scheme of the building having been definitely decided on, a local contracting firm was engaged to do the work on a percentage basis. Temporary offices were immediately erected, and trench digging for the first buildings started on the date mentioned.

With the exception of the experimental building, wood-drying building and the timekeeper's house, the whole group was built of brick on concrete base, with steel column and trusses, metal sash throughout, mill constructed floors and splined plank roofs.

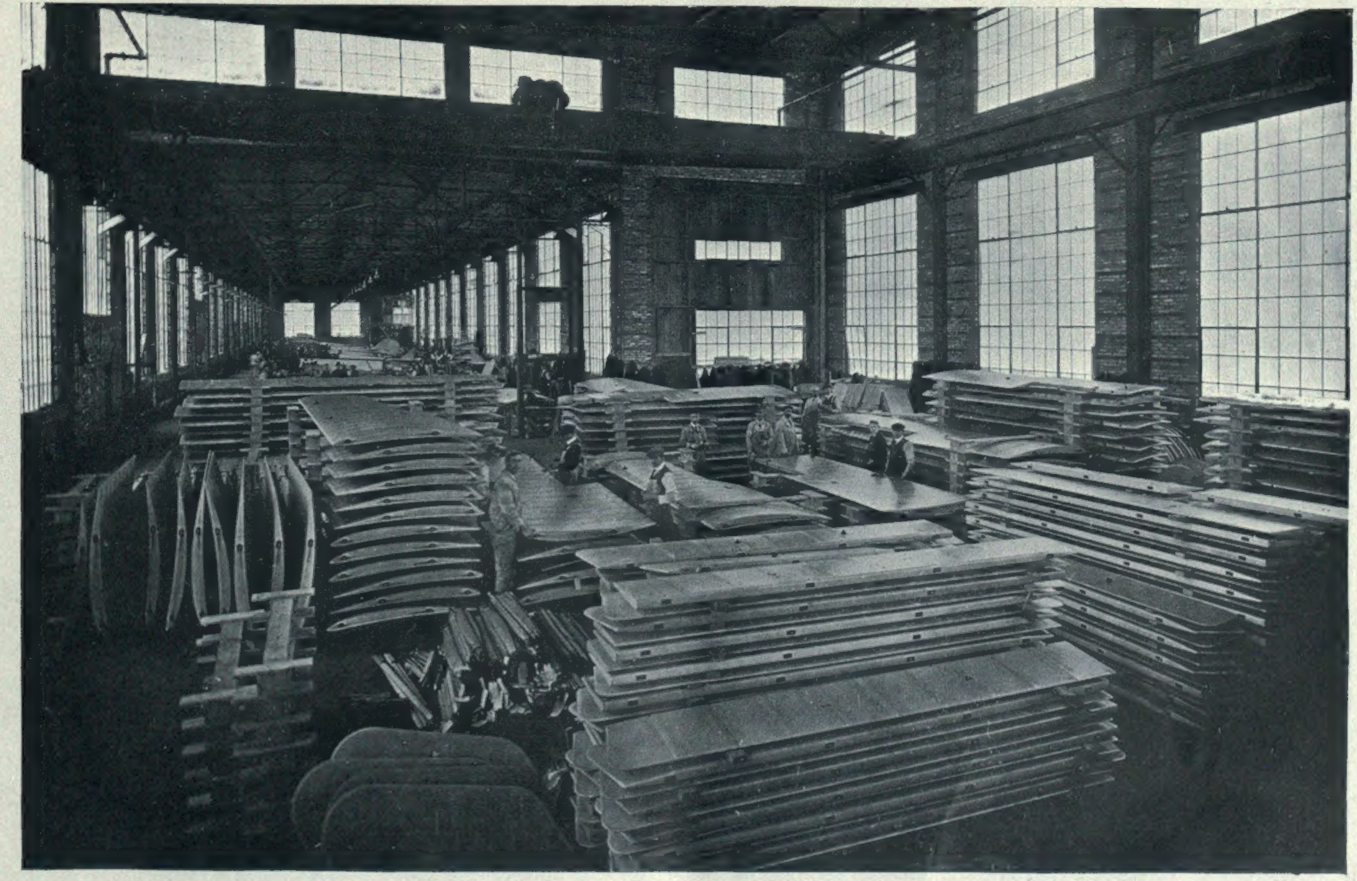
Some idea of the rapidity of construction can be gathered from the fact that the company was occupying some of these buildings inside of a month, while within forty-five days' time the manufacture of aeroplane parts was in progress to a considerable extent.

There was practically no overtime work on the job, and no work on Saturday afternoons, Sundays or at night, save in a few isolated cases, such as some rough labor work and some overtime for painting at the very end. By May 7th, three months and a week after operations started, the buildings were completed, roadways and sidewalks laid, and the contractors' plant entirely removed from the premises. By deducting Sundays, Saturday afternoons, rainy days and days when it was too cold to work, the total number of full working days amounted to sixty-six. It is doubtful if such a record has been equalled by any similar war work on this continent. This result was obtained through the hearty co-operation of the owners, architects and contractors, and de-

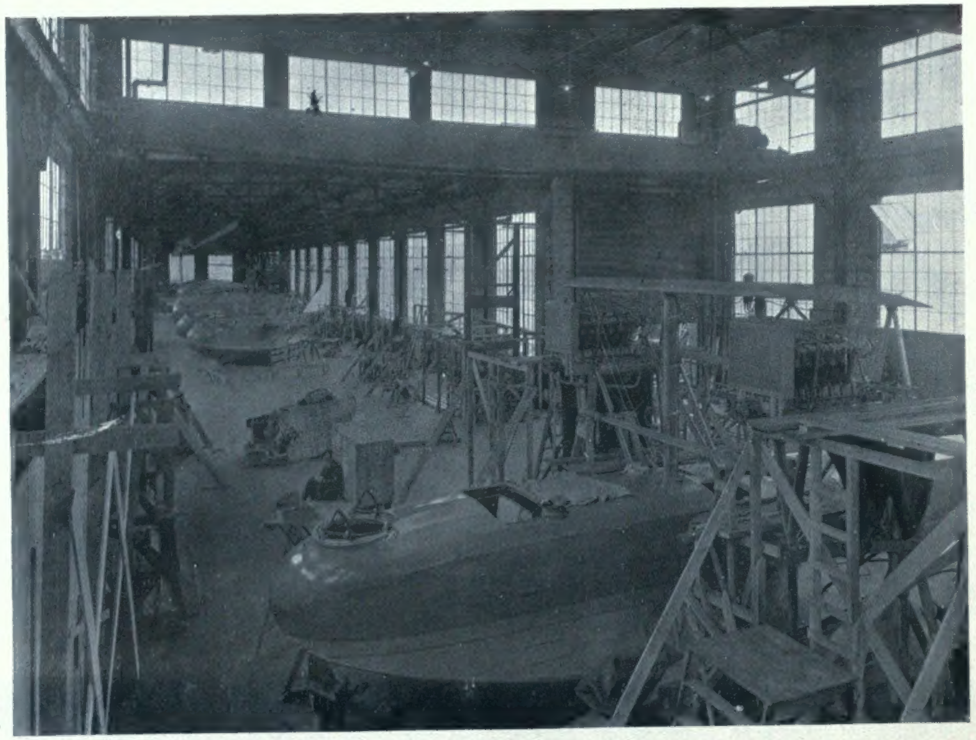
METAL SHOP.



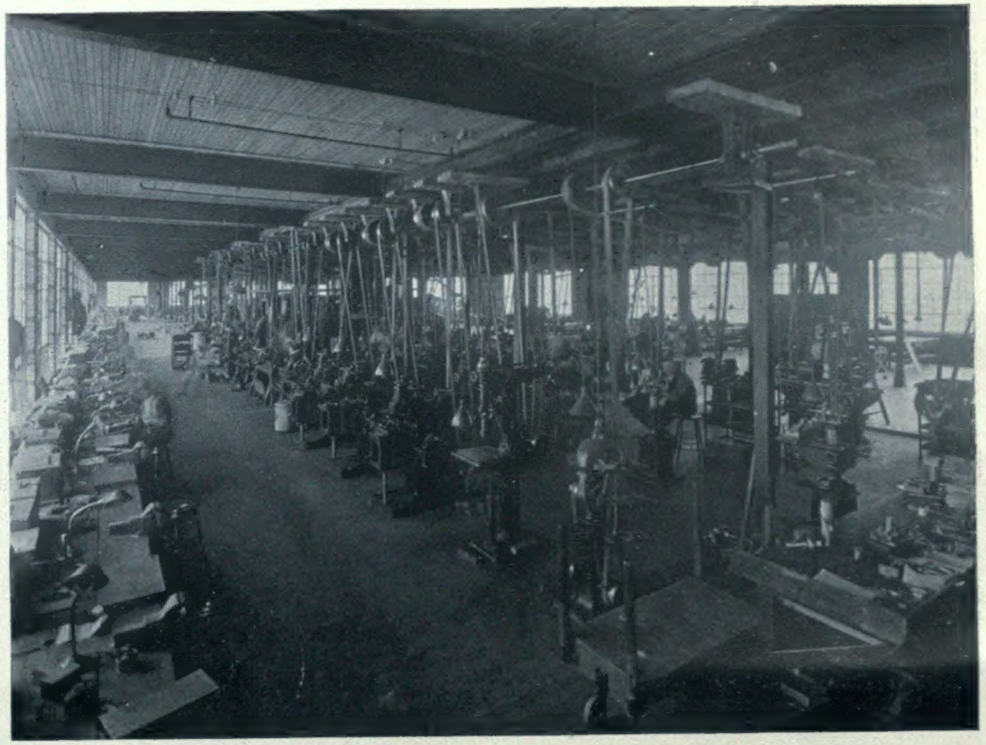
INTERIOR OF WING BUILDING, SHOWING PANELS READY FOR COVERING



SHIPPING ROOM, FACTORY OF CANADIAN AEROPLANES LIMITED, TORONTO. JOHN M. LYLE, ARCHITECT.



SHIPPING ROOM, FUSELAGE BUILDING

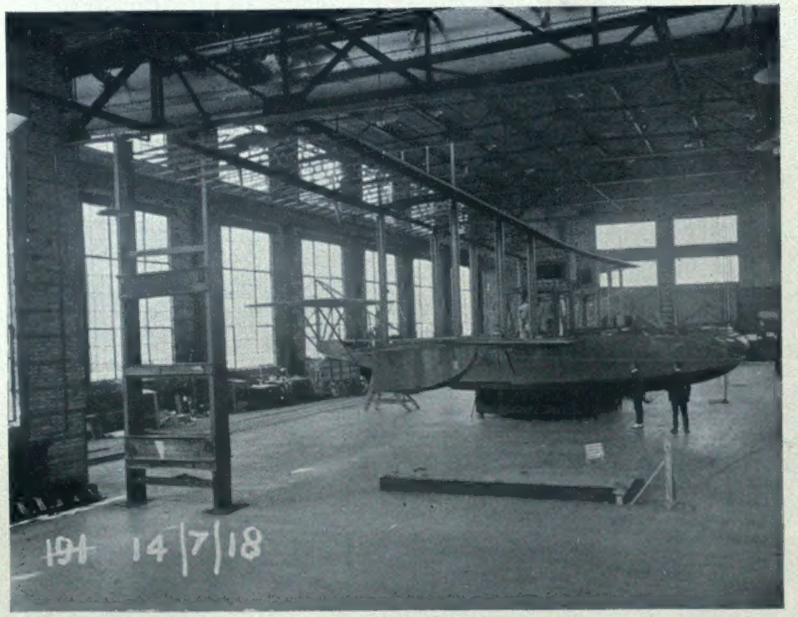


VIEW SHOWING SECTION OF TOOL ROOM

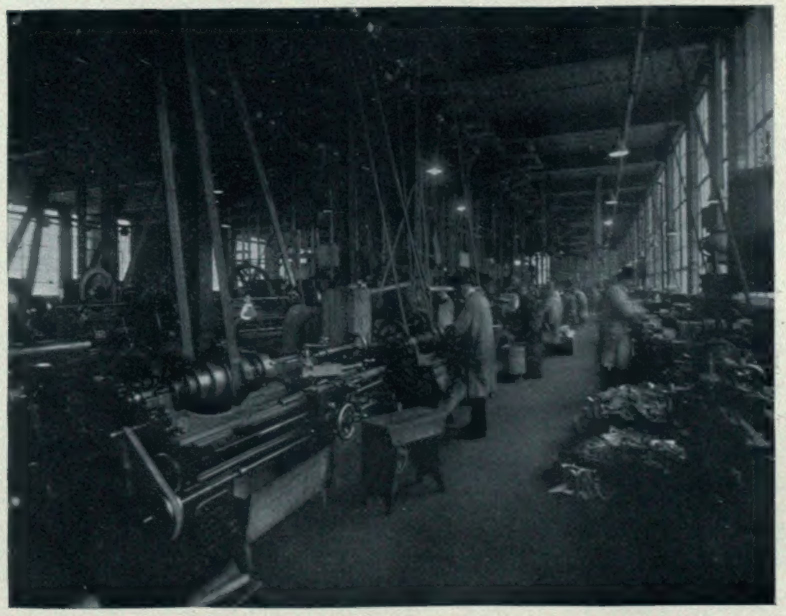
Factory of Canadian Aeroplanes Limited

JOHN M. LYLE, ARCHITECT.

JACKSON-LEWIS COMPANY, CONTRACTORS.



FLYING BOAT NEARING COMPLETION.



TOOL DEPARTMENT METAL SHOP.

WING BUILDING, FACTORY OF CANADIAN AEROPLANES LIMITED, TORONTO.

notes organizing methods and capabilities quite upsurpassed.

Before any contracts were let, an investigation was made by a Canadian inspection company as to the steel in hand at the time in Montreal, Winnipeg, Hamilton and Toronto, and the contract finally awarded to a local steel firm on the basis of a penalty and bonus system; the contractors to receive a bonus of $100 per day on each building for every day under his schedule for delivery, and to be penalized an equal amount for every day behind such a schedule. Some idea of the speed in delivery and erection of the steel may be gathered from the fact that on a schedule of delivery set for six weeks, the contractors were able to earn a bonus of six thousand dollars.

When it is borne in mind that, besides steel columns, beams, etc., there was a great deal of truss work—certain spans being 67½ ft. wide, and other 60 and 45 ft. wide—some idea may be gathered of the fabrication entailed thereby. The wing panel building, which has a span of 60 ft., is 400 ft. long, while the fuselage building, which has a span of 45 ft. in one section and 67½ ft. in another, is over 500 ft. long.

In order to preclude the possibility of any delay of materials, orders were only given with the strict understanding that deliveries would be promptly made. A contract was made with a local brick company that they were to agree to take no other orders and to supply a continuous haulage of at least twenty teams per day. If, in addition, it was deemed necessary by the architect, they were to ship by rail. At one time bricks were being laid hot from the kilns.

FUSELAGE BUILDING, SHOWING MACHINES READY FOR SHIPMENT.

During the first two weeks very severe weather prevailed, the thermometer dropping to 15 to 18 degrees below zero. Special precautions were taken to protect the trenches from the frost, and also the concrete during erection. Later in the spring, owing to the rather wet character of the soil and the fact that snow and ice had accumulated inside the buildings, it was necessary to thaw out same

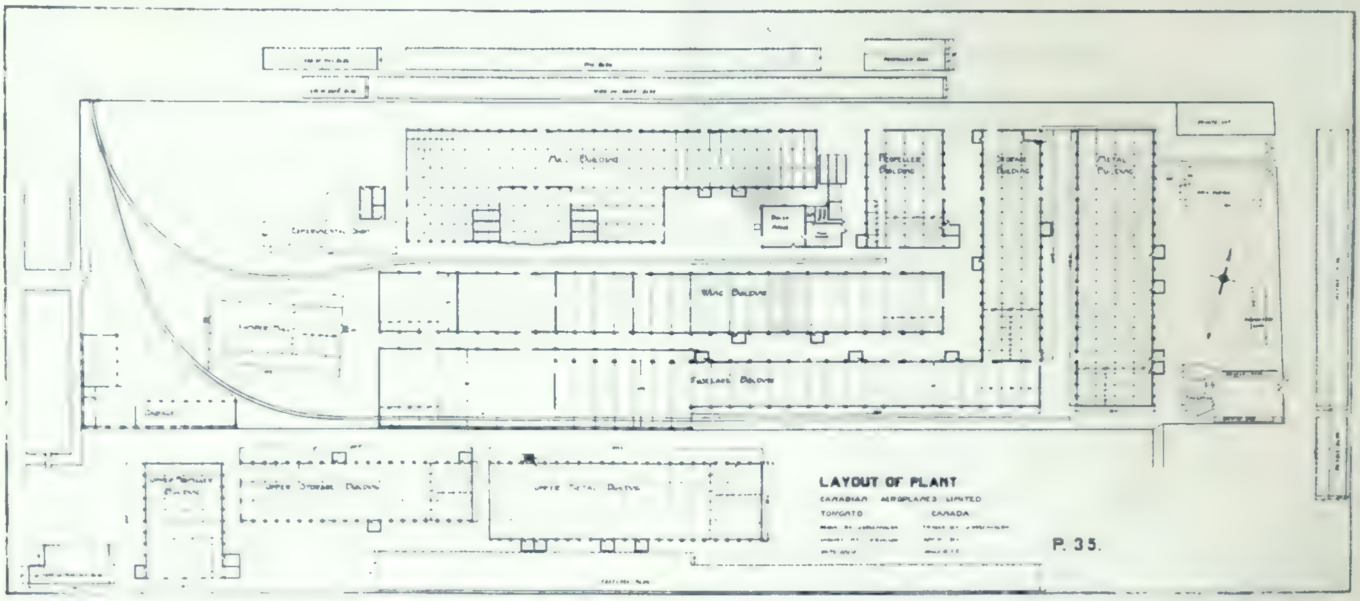
GARAGE CANADIAN AEROPLANES, LIMITED, TORONTO. JOHN M. LYLE, ARCHITECT.

with auxiliary salamanders. A sea of mud was the natural result, and it was necessary to drain off the water from this mud and fill in with cinders. Steam rollers were put in to crush down this cinder-fill, and it was an interesting sight to see at one end of the building a sea of mud, in the middle a steam roller at work, and at the farther end a gang of men laying the work floors.

The buildings are heated by steam from a central plant, radiators being used instead of piping. This service work was put through in record time by a local heating firm, employed under the general contractors. Owing to the character of the work to be carried on in the plant, it was necessary to have specially well-lighted shops, and this has been obtained by the use of large areas of metal sash.

Special care was also given to the matter of routing materials in the process of manufacture so as to successfully co-ordinate all branches of the work. With this in view, the buildings were planned with a central stock room, distributing the raw material stock on one side to the metal-working plant, and receiving it back again at the other end of this stock building, where it was joined with the finished millwood part received at the other side of the stock room, and distributed to the assembling departments. Material from the lumber yards, situated at the west end of the property, likewise progresses in one direction to the stock room. The final assembly, starting from the stock room end of the buildings, progresses toward the shipping department, down the two long buildings.

The following additions were made to the plant during the past year: Second storey on metal building; six dry kilns; nine bay extension to wing and dope building, 180 x 60 ft.; nine bay



BLOCK PLAN, FACTORY OF CANADIAN AEROPLANES LIMITED, TORONTO. JOHN M. LYLE, ARCHITECT.

extension to fuselage building, 180 x 80 ft., and a seven bay extension to fuselage building, 120 x 14 ft.

All details of construction are what might be termed standard; that is, all steel is of standard size and lengths. All partitions, etc., throughout the plants are in small units and standardized, so as to permit them being moved from place to place and put up again without cutting.

◆

Quantity Surveys for Buildings

Competitive methods are more vicious today than ever. The age of efficiency in which we are at present developed, is producing many fine high class specialists, but in reality the whole scheme is nothing but a most scientific method of price reduction. For instance, if through your efficiency man you can save a dollar a thousand in laying brick, what becomes of the dollar? The next job you figure you reduce that bid a dollar a thousand on brick and pass the result of your scientific organization work over your head back into the pockets of capital.

Out of all the chaos there finally comes a ray of light, more than a hope, a sure, time proven process that will eliminate the evils of the present day competitive menace.

This acknowledged remedy is known as the "Central Quality Survey" method. Under its guiding hand a full value and uniform competitive list of quantities can be established in any market; it gathers statistical information of inestimable value, to be in turn imparted to all. It covers costs, estimating, standardization, credits, insurance, and such legal matters as must necessarily come under its scope. It has full association powers and has proven to be a direct producer of profits for those who have had the perseverance to incorporate the work.

We all know each item on a plan represents a certain value, and every item omitted is an absolute loss. The items on a plan represent the material you will be obligated to buy, and the labor you must pay for in executing the work. Therefore, the interpretation of every plan must be as near perfect as possible, free from confusion, and the only way to stop confusion is to have a job listed by one man carefully and properly and all competitors accept this uniform and correct interpretation. In fact, it is the most economic, most efficient, most properly applied principle ever submitted to the building interests.—C. E. Flamboe in a Builder's Bulletin of the Master Builders' Association of Wisconsin.

Commercial Restrictions Withdrawn

Important cable dispatches have been received by Mr. G. T. Milne and Mr. F. W. Field, the British Trade Commissioners at Montreal and Toronto respectively, from the Imperial Department of Overseas Trade in London pointing out that since the armistice was signed many restrictions on commerce have been withdrawn, while in the case of those which remain, licenses are being granted much more freely than previously. Particulars regarding these relaxations will be published weekly in the "Board of Trade Journal," the official organ of the Imperial Government for notices regarding trade.

Orders placed during the war period now have good prospects of being executed, and arrangements for new business should be made without delay.

The following relaxations in particular should be noted:—

1. Permits to manufacture and Priority Certificates in connection therewith are no longer necessary.

2. Firms are at liberty to accept civil or commercial orders for immediate execution, thus freeing the engineering industry among others, for commercial work.

3. All the principal kinds of raw materials may now be used for the commercial manufacture of goods for export, but these raw materials themselves may not be exported in certain cases without licenses. Among those to which this condition applies are the following:—

Aluminum, Brass, Iron, Nickle, Steel, Antimony, Copper, Lead, Spelter or Zinc, Tin.

In general, restrictions on the export of manufactured goods have been removed, while they have been retained in the case of raw materials.

The following list indicates some of the most important items the export of which was formerly prohibited to all countries, but which ahe now permitted to be exported to any part of the British Empire:—

Articles—manufactures of asbestos; belting, cotton—including belting impregnated with balata or rubber; copper—and manufactures of—except wire bars, plates, rods, sheets, stripe tubes; galvanized sheets—corrugated or flat; iron and steel rivets, nuts and screws; iron and steel wire cloth, linoleum, magnesite and magnesite bricks, nails, (wire), steel sheets, (black), tools, (small).

Certain factors will continue to hamper the export trade, notably (1) shortage of labour till the army is demobilized, (2) shortage of tonnage, (3) the need for reorganization of plant in certain industries before resuming normal work, but it is considered that the effect of these factors will diminish greatly in a few months.

THE LATE EDMUND BURKE

Senior Member of the Architectural Firm of
Burke, Horwood & White, Toronto

Obituary

The death of Edmund Burke, which occurred from pneumonia on January 2nd, deprives Toronto of one of its best-known citizens, as well as the profession of architects of one of its most prominent members.

Deceased was born in Toronto sixty-eight years ago, and was senior member of the well-known firm of Burke, Horwood & White, with office at 229 Yonge Street. Few men of the present generation of architects have so widely held the respect and esteem of their confreres, or been more closely identified with the building progress of the country. Practicing continuously for a period of over forty years, during the time when Canada was passing from its more backward state to the present great strides of nationhood, his efforts stand out prominently in the modern character of Canadian architectural work.

The late Mr. Burke received his education at Upper Canada College, and studied his profession in the office of Gundry & Langley, and afterwards became a member of the firm of Langley, Langley & Burke. He was vice-president of the Architectural Institute of Canada at the time of its organization, and held the presidency of the Ontario Association of Architects in 1907, during one of its most active and progressive periods. He was also a member of the Toronto Technical School Board and a member of the Board of Assessors, and was appointed by the Dominion Government in 1906 to select a design for the proposed new Departmental Buildings at Ottawa.

Among the many buildings in Toronto designed by Mr. Burke were the McMaster University, Parkdale Methodist Church, Walmer Road Baptist Church,Jarvis Street Baptist Church, Sherbourne Street Methodist Church, Trinity Methodist Church, Metropolitan Methodist Church, Castle Memorial Chapel, and the Meteorological Building, north of the University grounds. Later on, in association with Mr. Horwood, and since Mr. White became a member of the firm, he designed the Robert Simpson Departmental Store, the Methodist Book Room, the Central, Broadview and West End Y.M.C.A.'s, the building of the W.C.T.U., large additions to the Toronto Gas Works, and the Hudson Bay Departmental Stores at Calgary, Vancouver and Victoria. He was also responsible for the architectural treatment of the Bloor Street Viaduct at Toronto, recently opened to traffic.

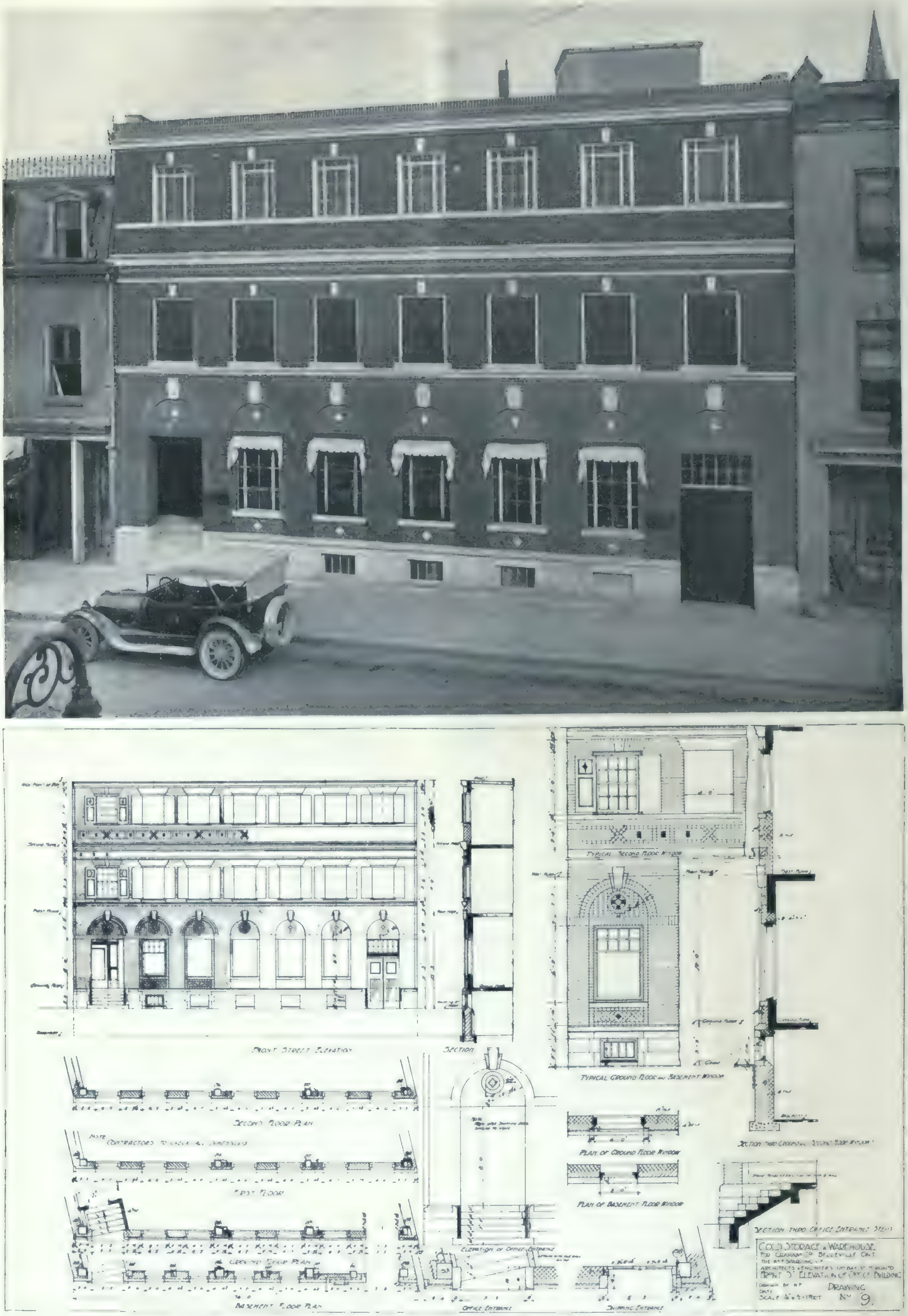
When president of the Ontario Association of Architects, Mr. Burke submitted a comprehensive plan for the æsthetic improvement of the streets, park system and water front of Toronto, which met to a large extent with public approval at that time. He was also a member of the Guild of Civic Art since its inception, and an occasional contributor to contemporary publications of articles and opinions relating to architectural and kindred subjects.

The deceased was a respected and life-long member of the Jarvis Street Baptist Church, and had been a deacon for many years, as well as chairman of the Church Choir Committee. He was an outstanding figure in the Baptist Convention of Ontario and Quebec, and had held a number of offices in the gift of the denomination. He had been a member of the Church Edifice Board for a long period, as well as the Church Extension Board, and has designed more churches by far for this denomination throughout Canada than any other architect.

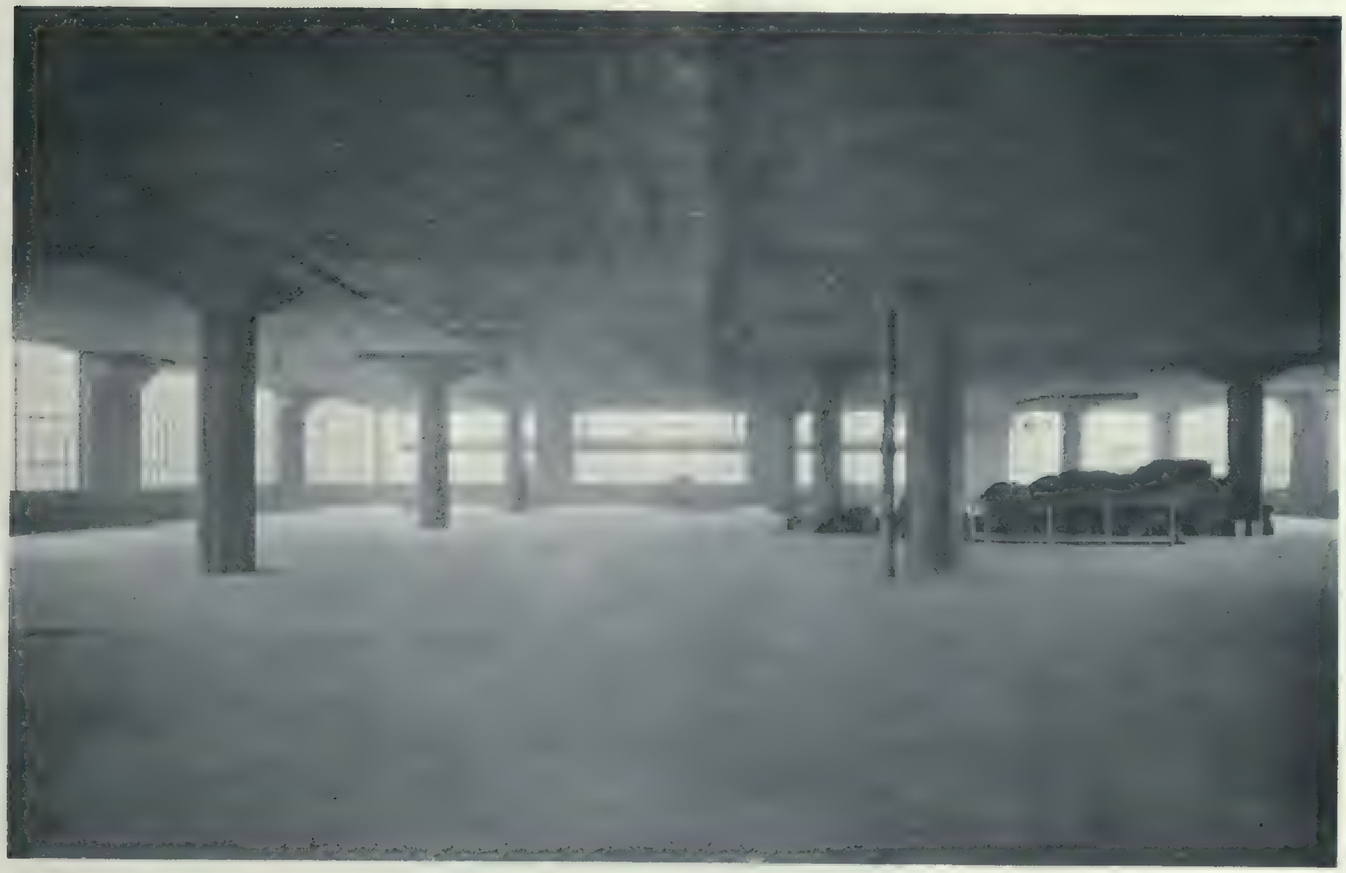
Mr. Burke was a member of the National Club, Canadian Club and the Rosedale Golf Club. He was apparently in the best of health up to a week before his death, being a man of a very vigorous and active type, and his passing comes as a sudden and distinct shock to all who knew him.

Another victim of pneumonia whose death we regret to record is Isadore Feldman, of the firm of Hynes, Feldman & Watson, Toronto, who passed away unexpectedly while on a visit to Detroit on January 9th. Mr. Feldman was one of the younger members of the profession, with a promising career before him. He received his entire training in the office of Mr. J. P. Hynes, in whose employ he remained for several years. In 1913 Mr. Feldman engaged in practice on his own accord, but shortly afterwards rejoined Mr. Hynes at the time the firm of Hynes, Feldman & Watson was formed.

Although only in his thirty-second year, he was already responsible for a large number of commercial buildings, and was rapidly achieving a reputation as a designer of work of this character. Mr. Feldman possessed a singularly affable personality, which impressed itself on all with whom he came in contact. He was a member of the Ontario Association of Architects and the Masonic Order, whose members, together with a large circle of personal friends, will regret to learn of the life of one with such a bright future so suddenly brought to a close.


FRONT STREET ELEVATION
SECTION
SECOND FLOOR PLAN
NOTE CONTRACTORS
FIRST FLOOR
GROUND FLOOR PLAN
BASEMENT FLOOR PLAN
TYPICAL SECOND FLOOR WINDOW
TYPICAL GROUND FLOOR AND BASEMENT WINDOW
PLAN OF GROUND FLOOR WINDOW
PLAN OF BASEMENT FLOOR WINDOW
SECTION THRO GROUND & SECOND FLOOR WINDOW
SECTION THRO OFFICE ENTRANCE STEPS
ELEVATION OF OFFICE ENTRANCE
OFFICE ENTRANCE
SHIPPING ENTRANCE
COLD STORAGE & WAREHOUSE
FOR GRAHAM CO BELLEVILLE ONT
THE WM F SPARLING CO
ARCHITECTS & ENGINEERS TORONTO
FRONT ST ELEVATION OF OFFICE BUILDING
DRAWN BY
DATE
SCALE
DRAWING
No 9.

STREET ELEVATION, COLD STORAGE AND WAREHOUSE OF GRAHAM LIMITED, BELLEVILLE, ONT.
WM. F. SPARLING COMPANY, ARCHITECTS.



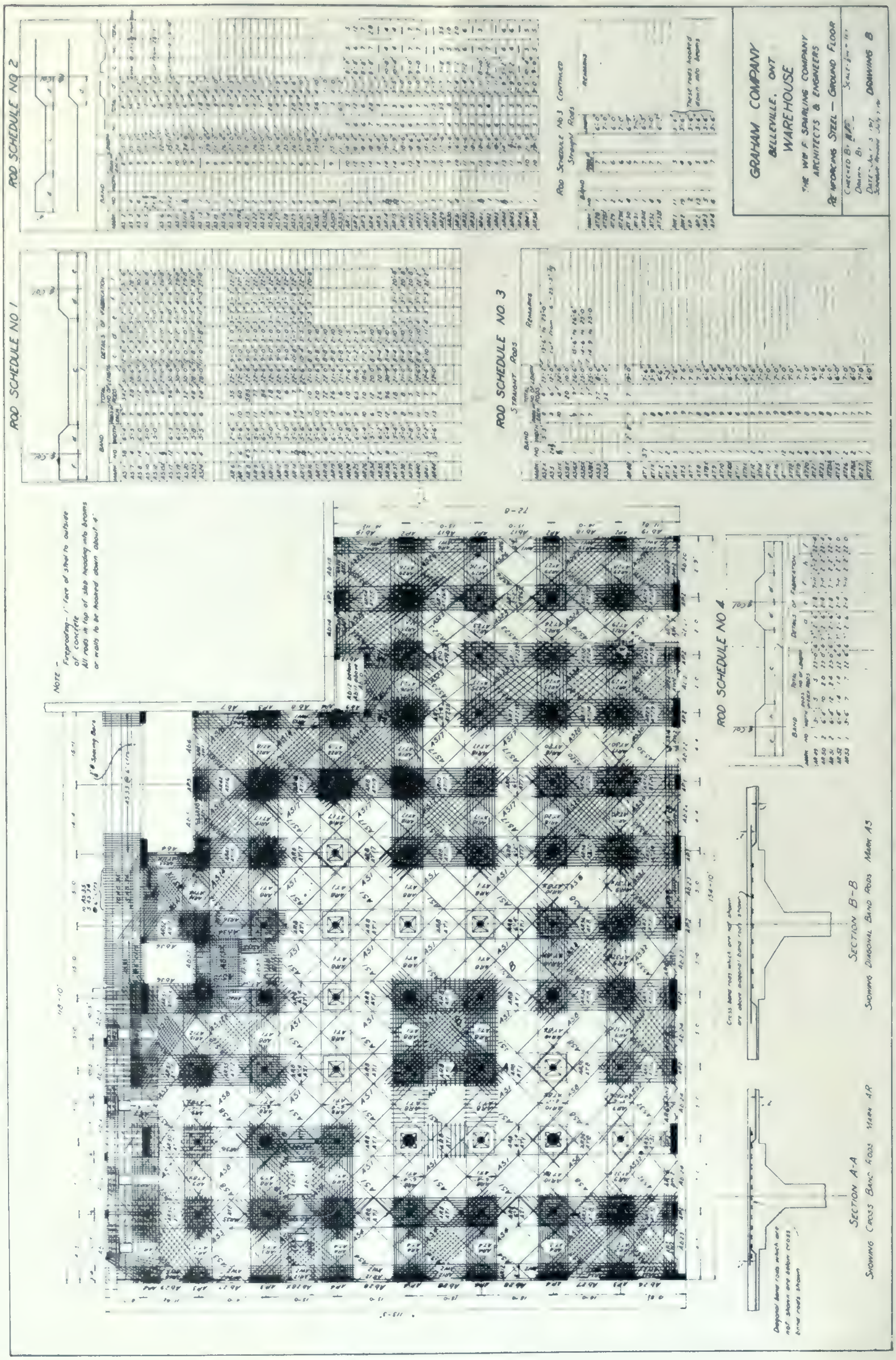
INTERIOR VIEW OF WAREHOUSE, SHOWING 30 FT. SPANS.

Warehouse and Cold Storage, Belleville, Ont.

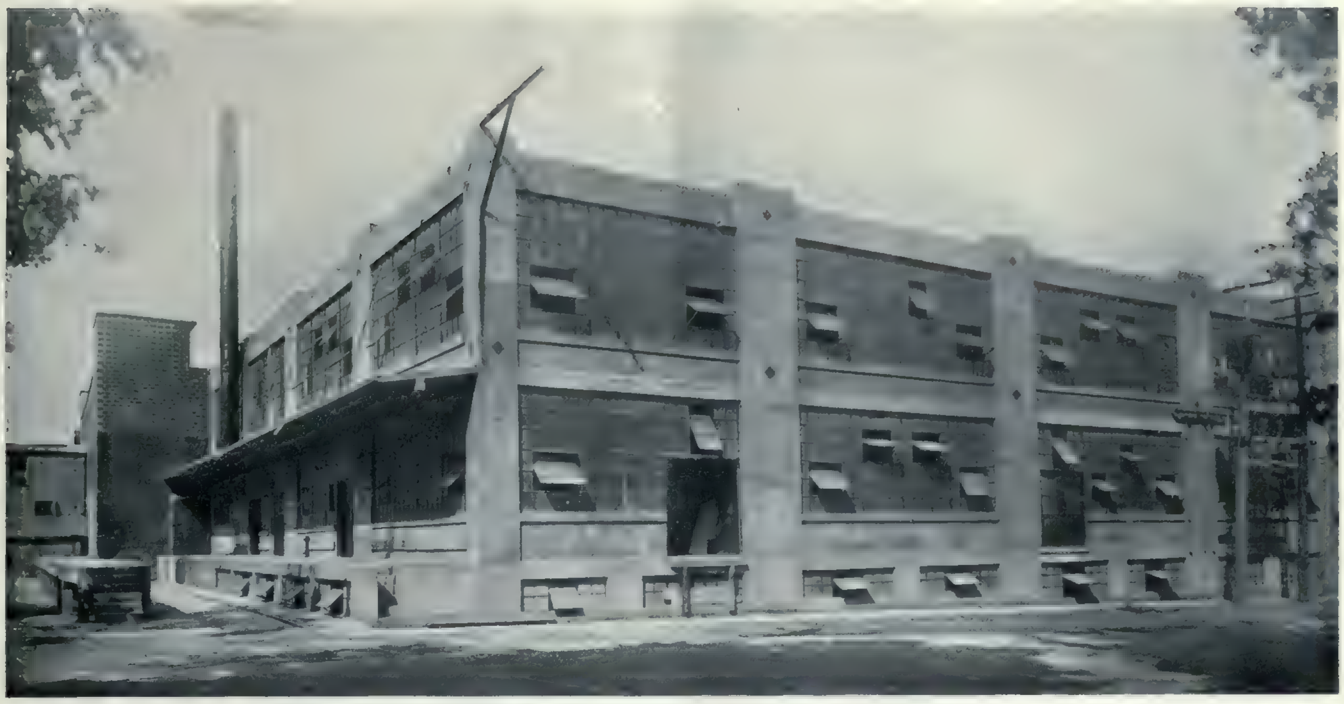
Early in the spring of 1917, the plant of Graham's Limited, Belleville, Ont., was destroyed by fire leaving only a few walls standing. The loss included the office and shipping building, a cold storage building and plant, and manufacturing and storage buildings. It was decided to rebuild and in the following June a start was made to clear away the wreckage preparatory to the construction of a fireproof plant of up-to-date design.

Reinforced concrete was adopted and the flat slab type was selected for the warehouse and cold storage, whereas beam and slab construction was used for the irregular shaped office building. In the warehouse, two storeys and basement, the owners required spans of 30 feet each way to carry a live load of 200 lbs. to the square foot; but for the ground floor, columns at 15 feet centres were allowed in the basement and the floor itself designed to carry 400 lbs. to the square foot. The flat slab construction of the ground floor was carried out on one side and acted as a loading platform allowing the basement to run uninterrupted to the wall of the loading platform. In order to reduce the size of the main interior columns in the warehouse a rich mix and a large percentage of steel combined with special horizontal ties were used, based on the regulations of the London County Council, dated 1915. The footings were on rock at the level of the basement floor. Suitable bearing areas were blasted out under the columns to distribute the load to the rock. The flat slab in general was designed using Chicago stresses and the Chicago ruling. The wall columns were designed to handle the heavy moments induced by the 30 ft. slab, so that the combined stresses were not in excess of the permissible stresses. The 30 foot span flat slab is the largest built on this continent and results in a general interior effect such as is indicated in the accompanying illustration.

Large sections of steel sash and wired glass are used between the wall columns, and the slab at the walls is carried on an up kick beam acting as a curtain wall to the floor above. The sash is connected directly to the underside of the floor slab with no break in the ceiling. This insures the best possible distribution of light. The outside of the warehouse which is of reinforced concrete, has large sections of ventilating sash. The architectural treatment is simple and in keeping with a building of this type. To accommodate chutes, conveyors, etc., holes in the floor slab and loading platform have been provided. The roof drainage was accomplished by sloping the roof slab. Over the loading platform a concrete canopy is suspended


ROD SCHEDULE NO 1
ROD SCHEDULE NO 2
ROD SCHEDULE NO 3
STRAIGHT RODS
ROD SCHEDULE NO 3 CONTINUED
ROD SCHEDULE NO 4
GRAHAM COMPANY
BELLEVILLE, ONT
WAREHOUSE
THE WM F. SPARLING COMPANY
ARCHITECTS & ENGINEERS
REINFORCING STEEL — GROUND FLOOR
DRAWING B
NOTE - Fireproofing - 1" face of steel to outside of concrete. All rods in top of slab hooking into beams or walls to be hooked down about 4"
SECTION A-A
Showing Cross Band Rods Mark AR
SECTION B-B
Showing Diagonal Band Rods Mark A3
Diagonal band rods which are not shown are below cross band rods shown
Cross band rods which are not shown are above diagonal band rods shown

DETAIL OF STEEL REINFORCEMENT (GROUND FLOOR), WAREHOUSE OF GRAHAM LIMITED.
WM. F. SPARLING COMPANY, ARCHITECTS.

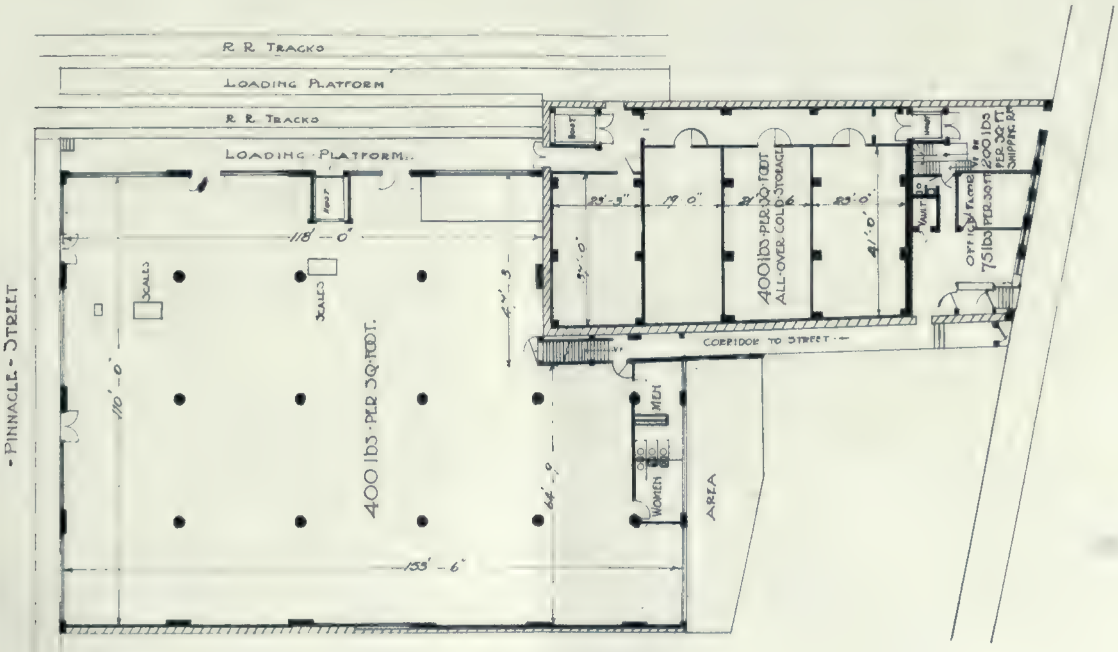


REAR VIEW, COLD STORACE AND WAREHOUSE OF GRAHAM LIMITED, BELLEVILLE, ONT.

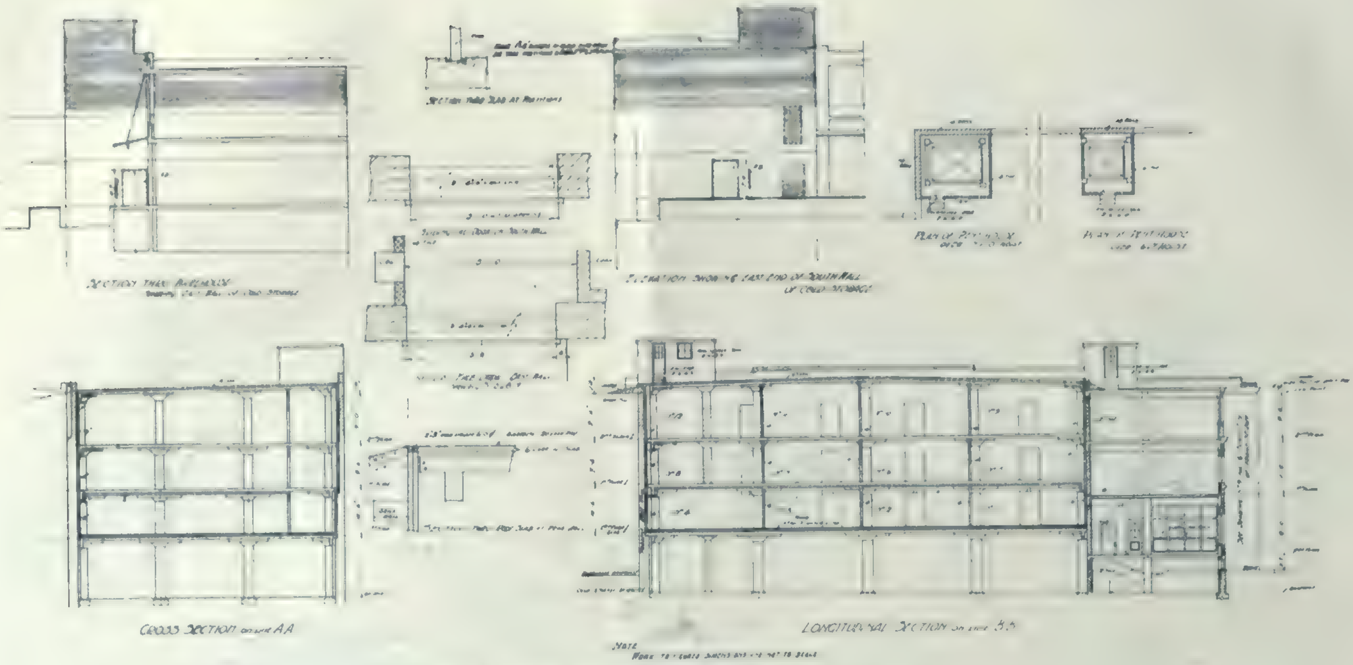
as may be seen in the photograph of the rear of the warehouse. A special bracket was cast on the outside of one of the wall columns to carry the metal chimney in such a way that it did not interfere with the headroom to the loading platform, and at the same time was outside of the building on the upper floors. The 30 foot floor slab designed for 200 lbs. per square foot was carried to 400 lbs. per square foot live load, without sign of permanent deflection.

In the cold storage, three storeys and basement, the old walls were re-used to enclose the concrete skeleton which consisted of flat slab structure of 18 x 22 ft. spans, designed for 400 lbs. square foot live load. The various rooms, cooling corridors, floors and the entire skeleton were insulated by varying thicknesses of corkboard. Rooms designed to maintain temperatures from zero to 34 degrees Fahrenheit, are cooled by means of direct expansion; the coils being located on the ceiling and provided with the usual drip pans. The refrigerating plant and boilers are located in the corner of the warehouse adjacent to the cold storage section.

The offices and warehouse are heated with direct steam radiation. All the wiring throughout the buildings is in conduits, with the exception of the cold storage which is wired in open knob and tube work according to the usual



GROUND FLOOR PLAN.

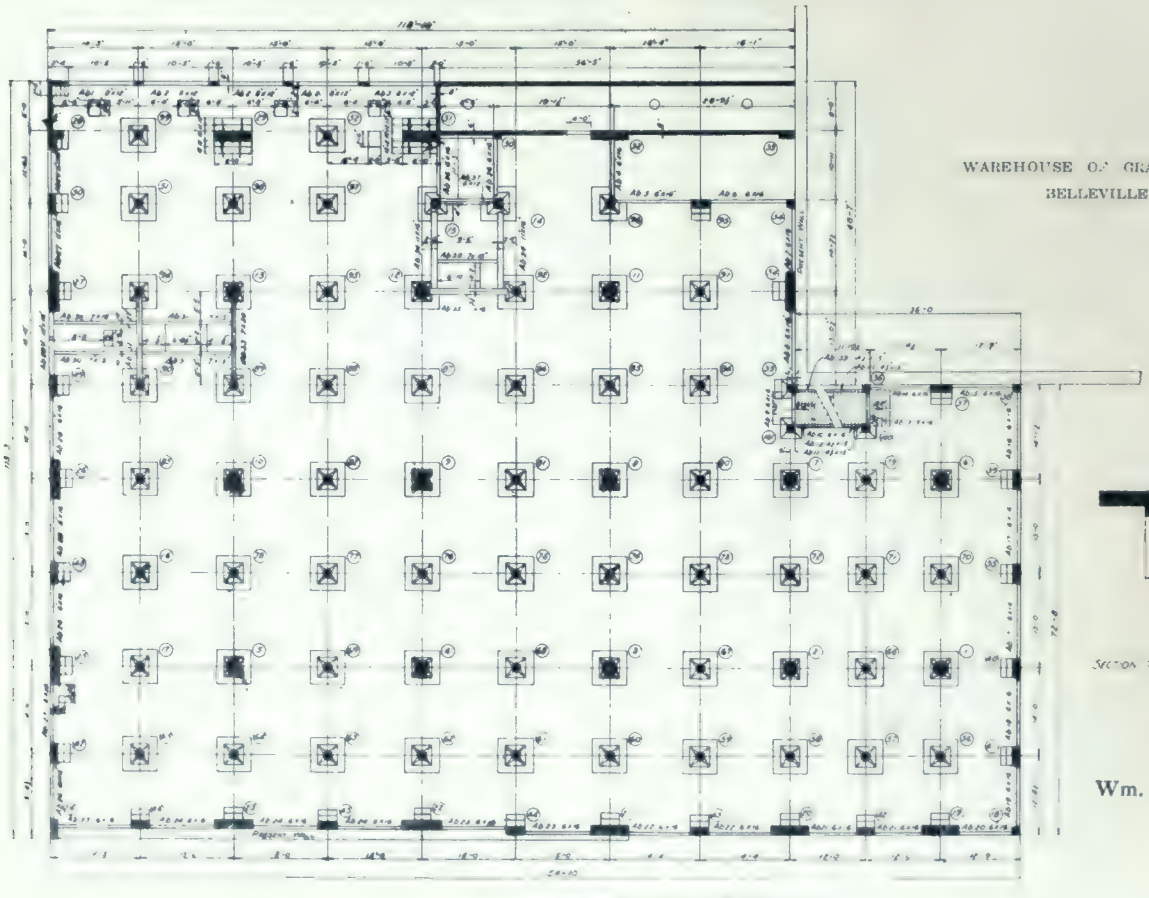


COLD STORAGE, GRAHAM LIMITED, BELLEVILLE, ONT.

cold storage practice. The architectural treatment of the offices is after the Italian Renaisance style, using tapestry brick relieved with Indiana limestone string courses, cornice and base. Elevators are installed in all three structures, and first class plumbing consistent with the character and requirements of the plant forms a part of the modern equipment which is used throughout.

Vancouver's Progress

Vancouver's building total for 1918 was practically double that of the preceding year. Permits were issued for improvements valued at $1,440,384 as against a total of $768,255 for the entire twelve months of 1917. Operations started in the final month amounted to $81,653 as compared with $56,295 in the previous corresponding period.

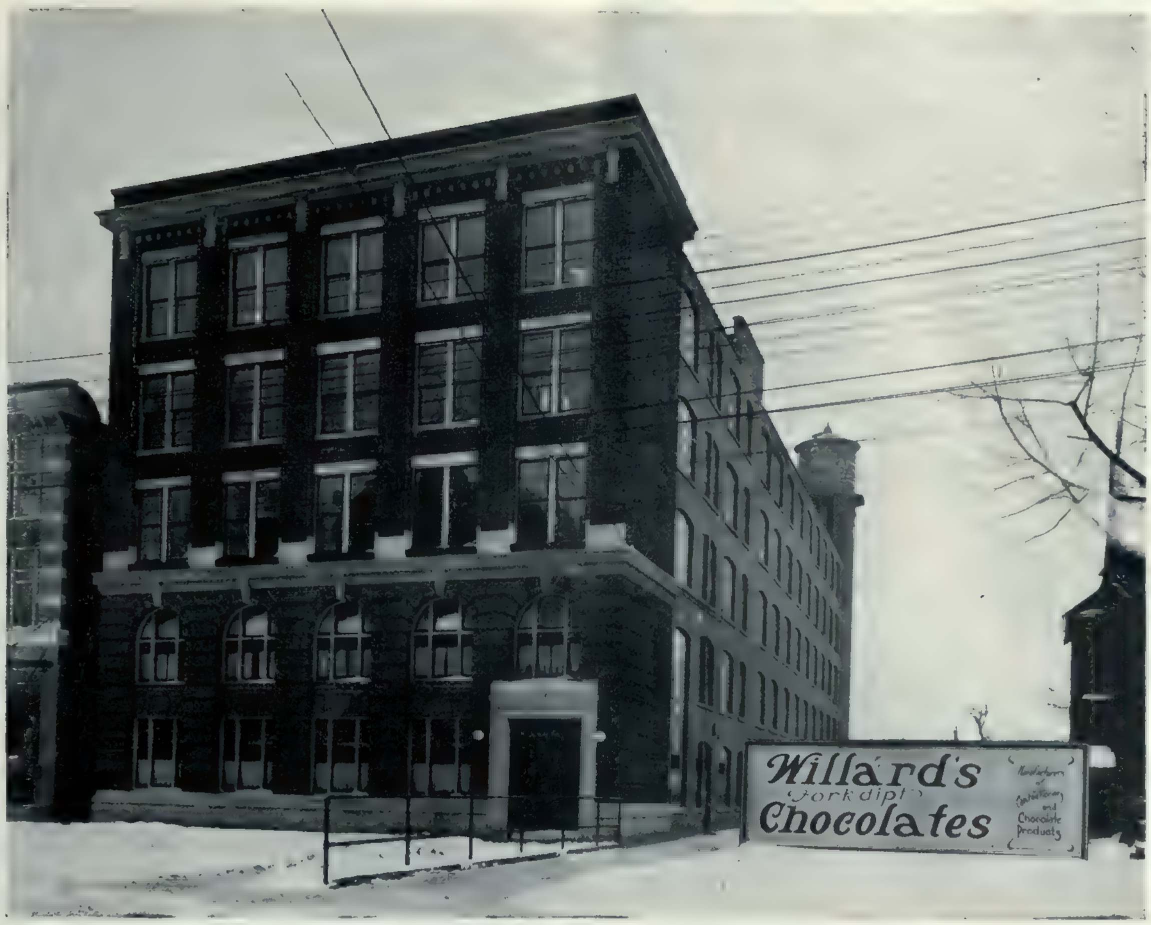


WAREHOUSE OF GRAHAM LIMITED, BELLEVILLE, ONT.

Section through Column Caps 23 & 31

Wm. F. Sparling Company
Architects

REFLECTED GROUND FLOOR PLAN.



WILLARD CHOCOLATE COMPANY'S FACTORY, TORONTO.

Willard Chocolate Co's Premises

Several of the structures illustrated in this issue relate to developments in one particular vicinity of Toronto, and reflect a steady expansion of industrial and commercial requirements which is characteristic of most of the principal Canadian cities. The Williard Chocolate Company's factory, on Wellington street west, Toronto, one of the subjects presented, is quite representative of a certain class of buildings being erected. It is of mill construction, 56 x 200 feet, providing altogether approximately 56,000 square feet of floor space, the plan and equipment being of a character in keeping with the usua lfeatures in a building of this type.

"Cob Houses"

In a recent issue of the London Daily Mail, Mr. T. C. Bridges writes interestingly on the subject of "cob houses" which correspond to the "adobe" on this continent. This method of building was discontinued in England about sixty years ago, but now an attempt is being made to again bring it into use to meet the housing needs in certain districts.

"All over Devon," says the writer, "and down around Essex as well, cob walls, cob cottages, and cob outbuildings are everywhere to be seen. Very picturesque they are, too, especially when white or pink washed.

"Cob is a clay mixed with straw, and built up just like modern concrete. A bottomless trough is used, made of two parallel planks. The clay, mixed with chopped straw, is pressed into it, and each course is allowed to dry before the next is put on. The result is a wall of great thickness, considerable strength, and of such durability that cob houses are still inhabited which were built five or six hundred years ago. A cob house well thatched is warmer in winter and cooler in summer than any brick or stone building, and there are no such walls for ripening wall fruit as those constructed in this simple fashion.

"Nor is 'cob' confined to Devonshire. There are cob walls in Somerset, in Northamptonshire, and probably in other parts of the country as well; while in Mexico, Texas, Arizona, and in Southern California many of the great ranch houses are 'cob' all through, only they call it 'adobe.'

In view of the crying need for new cottages in the near future, the writer suggests that in "cob" may be found a cheap and satisfactory substitute for brick or stone. He then explains that "cob" is far drier than most of the building stone used, claiming it to be one of the most picturesque of building materials, and concludes, with a strong plea that an effort should be made in England to resuscitate this almost forgotten method of construction.

Reconstruction and Development in Canada

By Dr. A. B. Macallum, Administrative Chairman of the Canadian Council for Scientific and Industrial Research.

"Reconstruction and development" in Canada in the new era of international girding for supremacy in the arts of peace means to the Canadian Honorary Advisory Council for Scientific and Industrial Research much in so far as "development" is concerned, but little in regard to "re-construction." Reconstruction postulates the building up again of what existed before; and up to the outbreak of war there was constructed in Canada no national organization for research work. The glowing path of Canada's opportunity for industrial development runs wide and far, but the Council's research path has to be blazed through a comparatively unexplored forest. It is almost entirely new ground to be covered.

Where Germany and, though perhaps in lesser degree, the United States had builded before the war great organizations for industrial research founded on wide-visioned realization of the commercial value and necessity of applying science to industry, in Canada, as in Great Britain, state encouragement and individual enterprise had, until the war started, been content in the main with a *laissez-faire* policy. Germany had her trained technologists and research workers by the thousands in every field of industry, and, through the organized application of science to industry, was winning her trade victories in every foreign mart.

In the United States, which early took a leaf from Germany's book, the great universities like Harvard, Yale, Chicago, Columbia and Cornell had staffs and equipments in pure and applied science, which kept pace or almost kept pace with the demand from great American industrial establishments for trained scientific investigators, chemists, electrical engineers, metallurgists, etc., to solve industrial research problems. The annual budget of the Massachusetts Institute of Technology, for instance, exceeded before the war, and still exceeds, the total of the annual expenditures of all the Faculties of Applied Science in Canada. There are some two thousand research laboratories in connection with large industrial concerns in the United States, and each of more than fifty individual firms expend annually sums ranging from $25,000 to $50,000 for research.

In Canada, in a score of years, less than twenty students have received the advanced (Ph. D.) degree in science from the University of Toronto and fewer still from McGill. Not two per cent. of Canadian firms have research laboratories and only about ten per cent. have routine laboratories, chiefly for the testing of materials. If Canadian industries were to seek for a supply of trained technical men capable of applying the most advanced scientific knowledge to industrial processes sufficient to meet even their most ordinary needs, the number of adequately trained men available would not be sufficient to satisfy five per cent. of the demand.

That, briefly put, is the situation with regard to the needs in Canada for equipment and men for research work. That is the situation which has confronted the Research Council since its creation in December, 1916. And that has been, and is, the crux of all the problems of scientific and industrial research in Canada, handicapping the carrying out of the large research programme planned for the past year and for the coming year, jeopardizing Canada's position in the international rivalry for export trade and demanding prompt remedy if the full measure of our opportunity is to be grasped. In resources of capital and materials, in all the natural advantages for industrial supremacy we are in an enviable position as compared with our trade competitors. But in regard to the vital question of scientific organization of our industrial processes of finding new uses and, hence, new markets for the raw materials and the by-products of manufacture, and of keeping pace with the advances made in other countries through research, we have as yet hardly touched the fringe of opportunity.

Confronted with this situation and with a slowly awakening public and individual realization of its portent, the main task of the Council this past year has been, while carrying on the immediate needs of research work with the means at hand, to pave the way for meeting adequately the urgent needs of the future. The goal has been a supply of trained men for research work, adequate equipment and facilities for research and the enlistment of industrial organizations in co-operative effort to solve common problems, the solution of which lies in the application of science to industry. The great forward step taken has been to promote the establishment of a Central Research Institute at Ottawa, combining the functions of the Bureau of Standards at Washington and of the Mellon Institute at Pittsburgh.

The proposal for such an Institute, submitted to the Government in November last, was the result of many months' careful investigation by the Council.

In view of the situation above outlined, the argument advanced in support of it is so obvious as to need no restatement here. There has been a prompt and appreciative response to the proposal by the Government and by all the public interests concerned. There is good reason to believe that the Institute will be established without any unnecessary delay. It will involve an expenditure of $500,000 for a four storey building, having initial provision for fifty laboratory rooms and with plans so drawn as to provide for expansion as the needs develop. The cost of the scientific equipment is estimated at $100,000, and the cost of maintenance, salaries, etc., at about $100,000 per annum for the first few years.

The establishment of the Institute is the necessary first step towards placing industrial research work in Canada upon an adequate and permanent basis and towards enabling the Dominion to keep abreast of similar progressive methods in the United States, Great Britain, Japan, France, Australia and our other trade competitors. It will, doubtless, be followed by the organization of trade guilds or associations for research in each branch of industry, formed to pool resources in solving common problems and to take advantage of the laboratory equipment and opportunity offered, under the Council's proposals, by the Government-maintained Institute.

A further necessary step will be the working out of the Council's plans for more adequate provision by the universities for the training of qualified scientific workers. In the more generous investment of state funds for this purpose, starting, say, with Toronto, McGill, and L'Ecole Polytechnique in Montreal, lies the hope of securing for the ensuing years of the world's strenuous and pitiless trade warfare the nation's leaders in scientific and industrial research.

Apart from these crucial phases of the work and aims of the Research Council, space permits of only passing reference to some of the many research problems already undertaken.

As a result of the Council's initiative, Governmental action was taken in June last to secure federal co-operation with the Governments of Saskatchewan and Manitoba in establishing a demonstration plant in Souris coal areas of Southern Saskatchewan, to prove the commercial feasibility of carbonizing and briquetting the Western lignites for heating in domestic furnaces. This year will see a plant established with an outlay of $400,000 and an annual output of 30,000 tons of coal equal to the Pennsylvania anthracite and marketed in Regina or Moose Jaw, at least, two dollars per ton less than the imported anthracite is now costing. The success of the initial plant, about which there can be little doubt, will lead eventually to the development of the immense and little realized latent lignite resources of Saskatchewan and Alberta, relieve for Ontario and Quebec the present coal famine through limited American supply and save to Canada the five or six millions of dollars now annually going to the United States for coal for the prairie provinces.

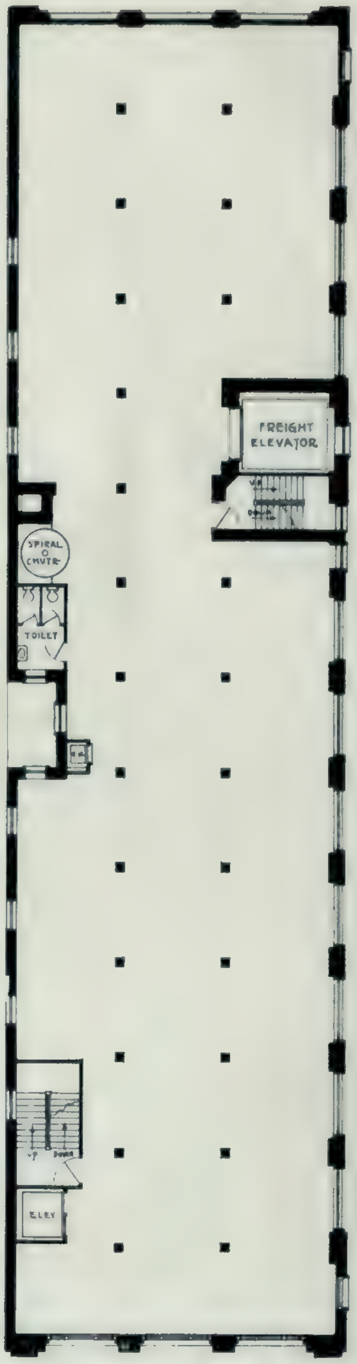
A systematic study of the rate of reproduction and growth of Canadian forest trees of the commercial species has been undertaken through scientific survey of some eighty square miles of an old cut-over lumber district on the Petawawa Military Reserve. The data being secured, will in the course of a few years give, for the first time, the essential definite information enabling the Dominion and Provincial Governments to inaugurate on a scientific and practical basis a scheme of reafforestation paralleling the best results obtained in the past in Europe. Our forest wealth, now in danger of exhaustion through reckless waste and disregard of adequate conservation systems, can only thus be preserved as a great and permanent national resource.

The tar fog research ,initiated in 1917, has been continued with satisfactory practical results which will doubtless lead in the near future to the application to various plants in Canada of a new electrical process for the recovery of valuable by-products now lost in the destructive distillation of coal, wood, etc. The research on sound measurements and fog signalling conducted in 1917, by Dr. Louis King of McGill has made further progress this year and forecasts a new type of sirens for use in the St. Lawrence River and Gulf. Research work connected with the recovery of industrial alcohol from the enormous sulphite liquor waste of our Canadian pulp mills points to the installation of recovery plants and the production in Canada, at decreased cost to consumers, of the alcohol increasingly needed for industrial purposes and as a substitute for motor fuel.

There have been a score or more of other phases of industrial research initiated or continued during the year, each having a practical bearing on some branch of national production. More should and could be done, were trained men and money available. The Council's budget for the year has been under $100,000. In Great Britain, Parliament has recognized the need and the opportunity by creating a separate Department of Scientific and Industrial Research and has voted one million dollars per annum for five years to be expended by the Research Council. In Canada, we, too, are learning the obvious lesson taught by Germany and already adopted by British industry. The path has been blazed for replacing rule of thumb methods in Canada by scientific investigation.

STORAGE BUNKS, 4TH, 5TH, & 6TH FLOOR.

SECTION OF SALESROOM, NEW BUILDING OF THE CANADIAN GENERAL ELECTRIC COMPANY, TORONTO.

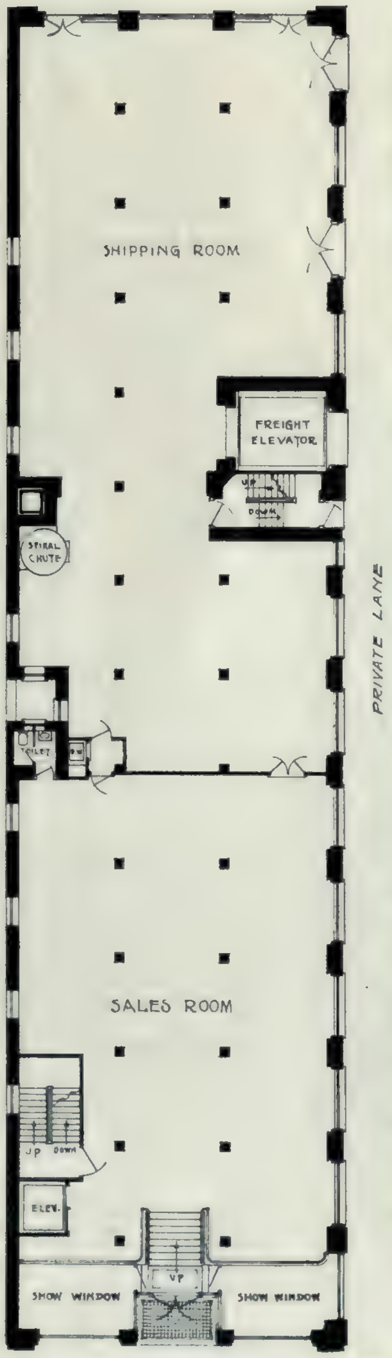


TYPICAL UPPER FLOOR PLAN.

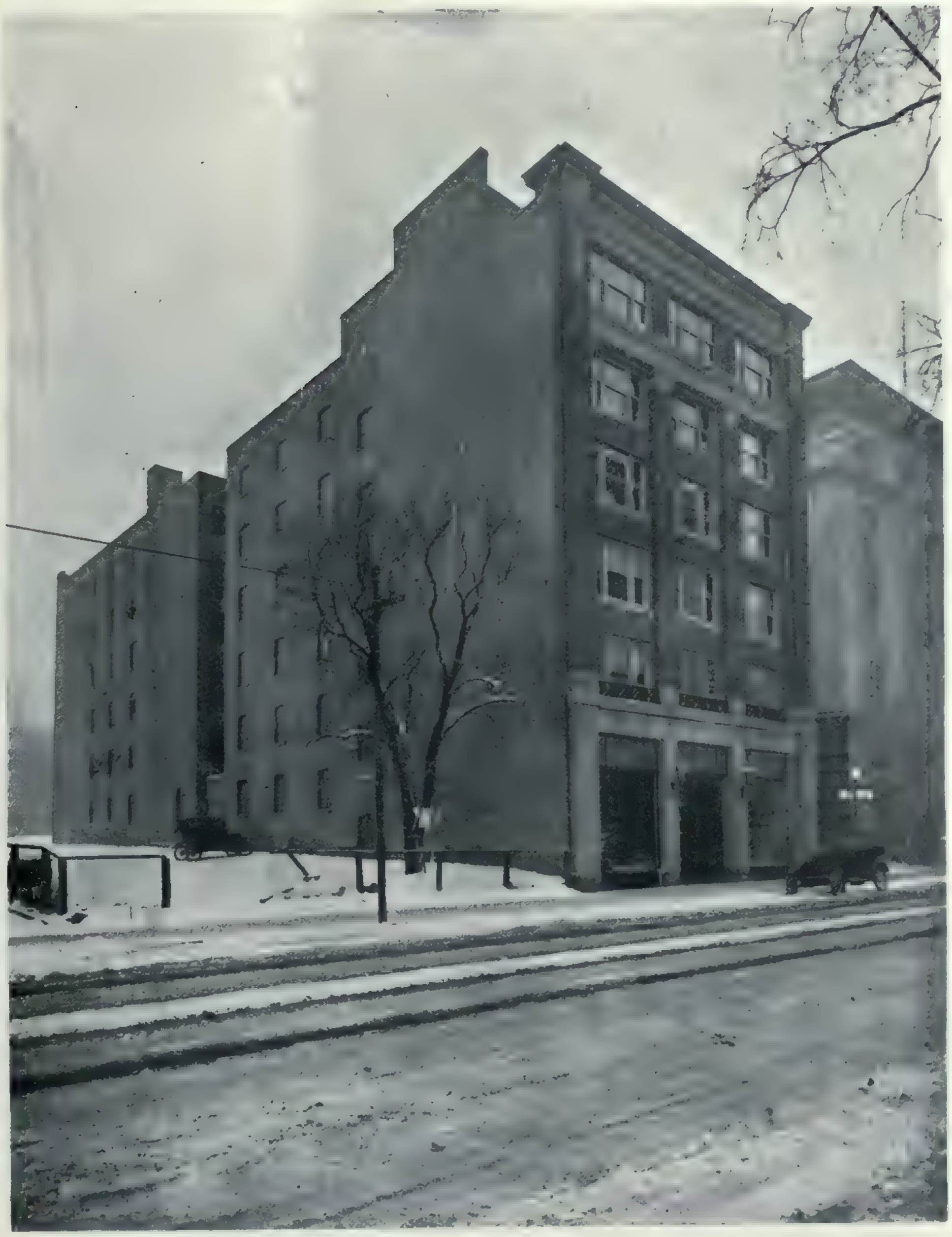
Recent Warehouses

The several buildings illustrated in the following pages are quite representative as types of recent warehouse and factory work.

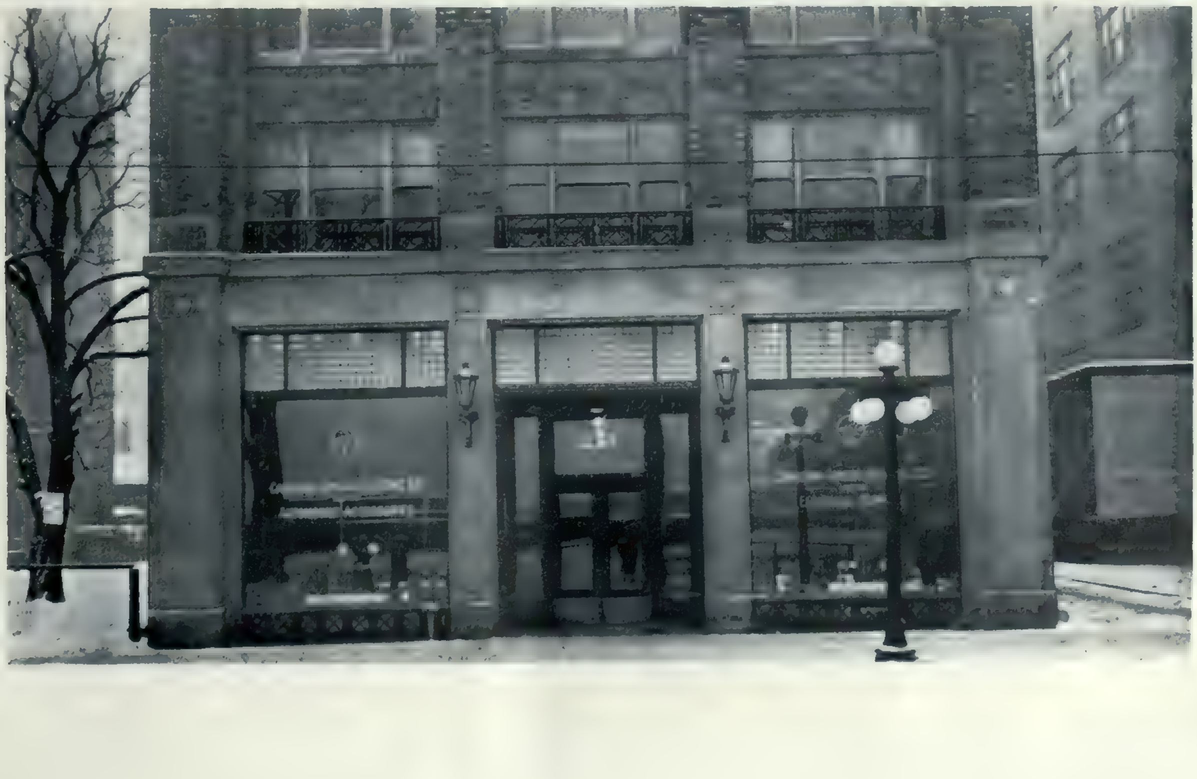
The new Canadian General Electric building, King St. W., near Simcoe St., is devoted to warehouse purposes except a salesroom, large show windows, etc., in front portion of first story and offices in front part of second and third stories for the use of the departments which control the stock carried in the warehouse. The building is of ''mill'' construction and British Columbia Fir was used throughout for posts, girders, plank flooring, etc. The floors are designed to carry a live load of 225 pounds. The building has a complete sprinkler system with a 20,000 gallon gravity tank on roof, and has also two lines of fire hose on each floor. The heating is arranged on the vacuum steam system and the steam is supplied at present from the Canadian General Electric Office building on the corner of King and Simcoe Streets. A smoke stack and other requirements have been installed in the new warehouse, however, so that a separate heating system may be put in at any time if desired. All goods are received and shipped from the private lane



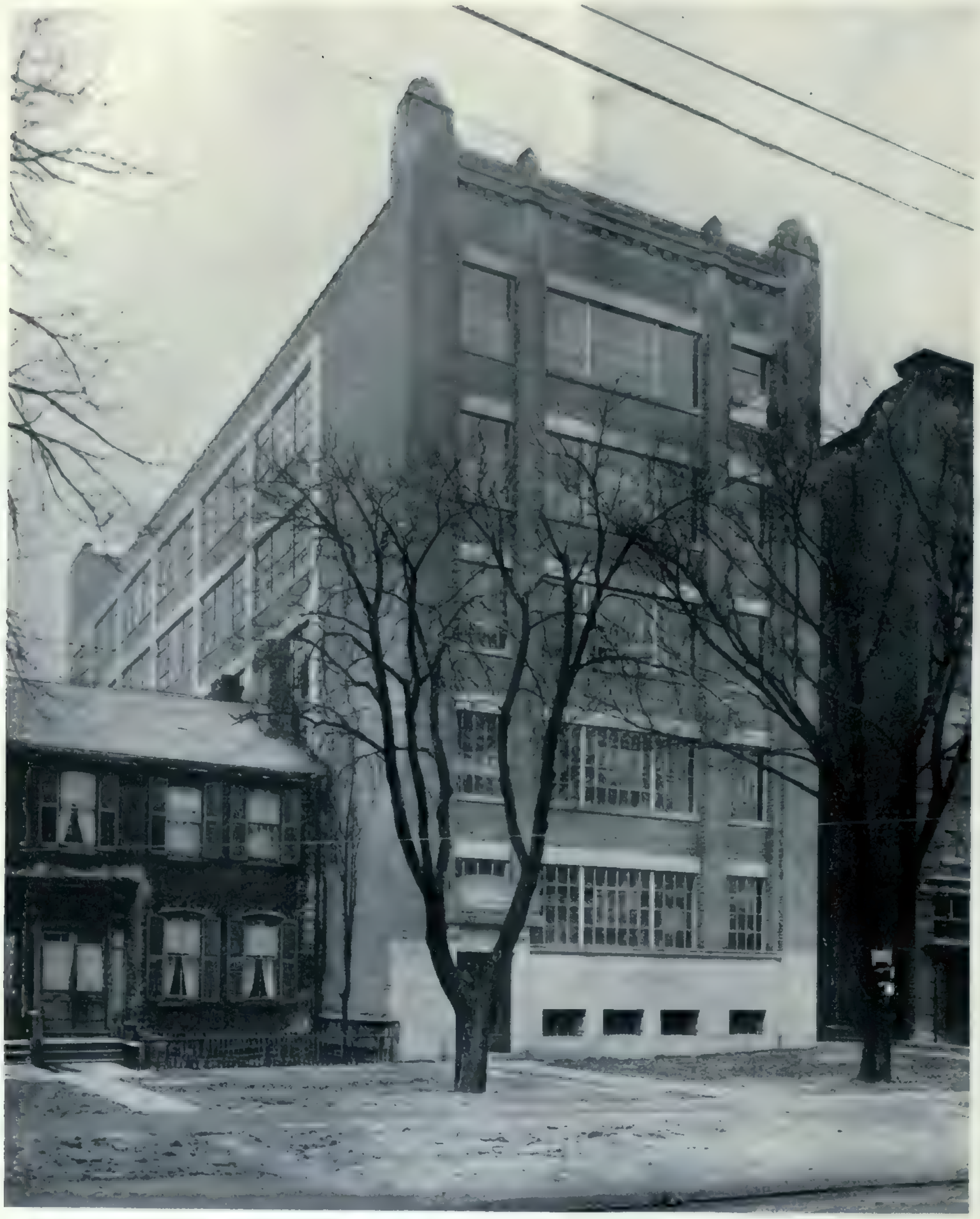
GROUND FLOOR PLAN.



NEW BUILDING OF THE CANADIAN GENERAL ELECTRIC COMPANY, TORONTO.
BURKE, HORWOOD & WHITE, ARCHITECTS.



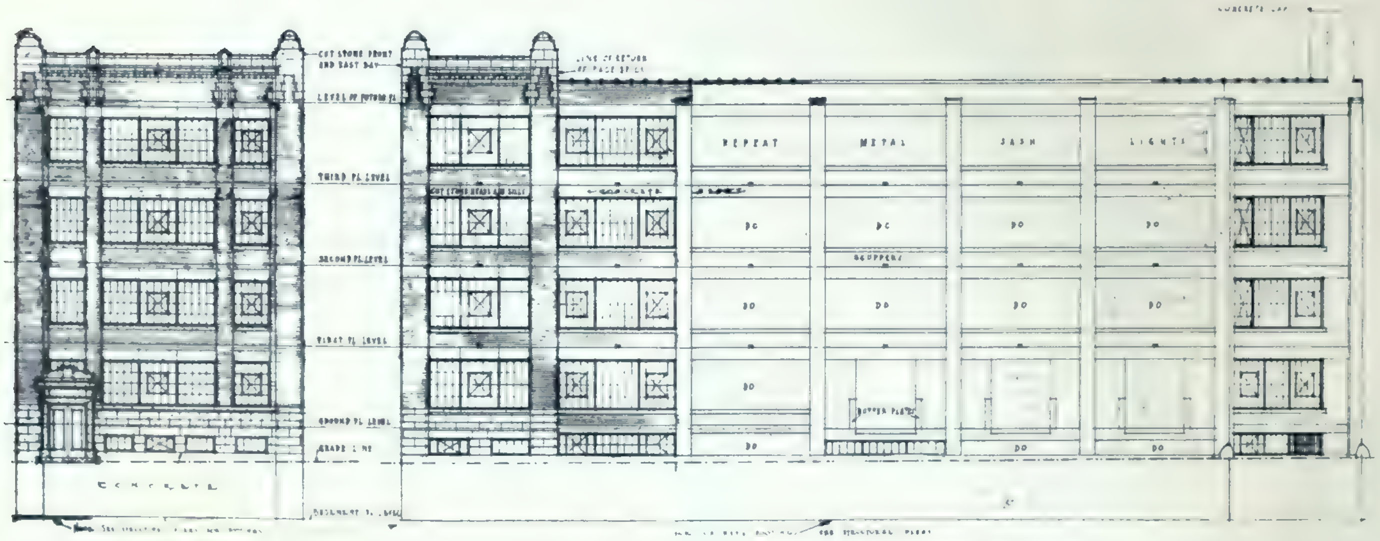
DETAIL OF LOWER FACADE



WAREHOUSE OF M. GRANASTEIN & SONS, TORONTO
HYNES, FELDMAN & WATSON, ARCHITECTS.

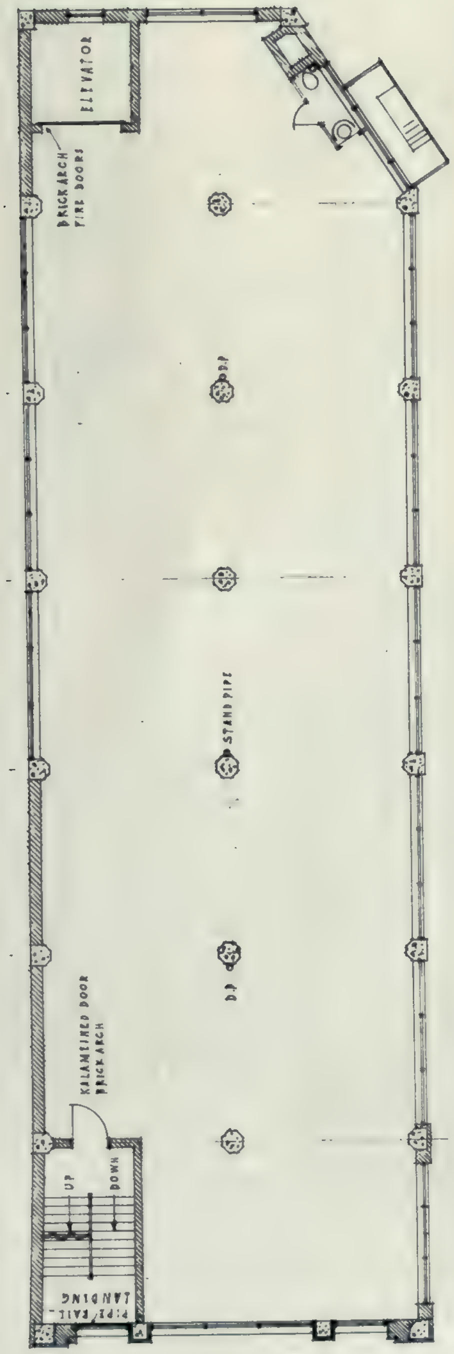
at the rear of building which faces on Pearl Street. There is a package chute on the Pearl Street front, also a large hydraulic sidewalk hoist. The other elevators are electric and the dumb waiter is arranged with automatic push button control. The spiral chute extends from the first to sixth storey and all goods assembled from the various upper warehouse floors are sent to the receiving and shipping room by means of this chute.

The Granastein building, located at 488 Wellington St., West, Toronto, is of flat slab reinforced concrete construction, being built according to the revised Toronto by-law as adopted from the Chicago code. The design provides for a live floor load of 150 lbs. per square foot, and for the addition of an extra floor to the

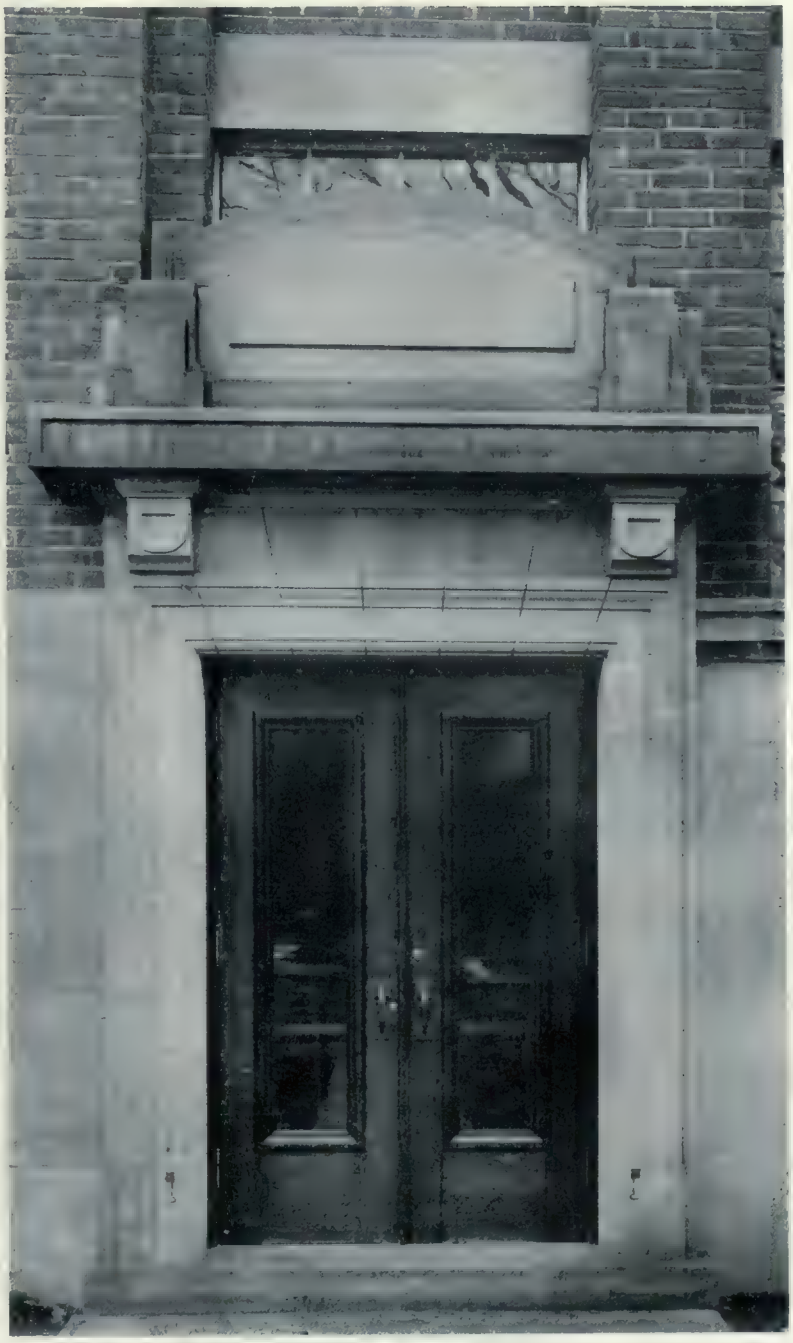


FRONT ELEVATION.

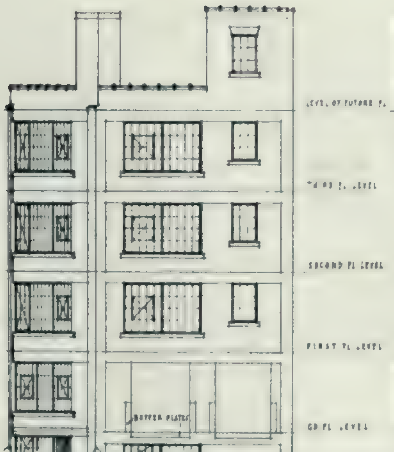
EAST ELEVATION.



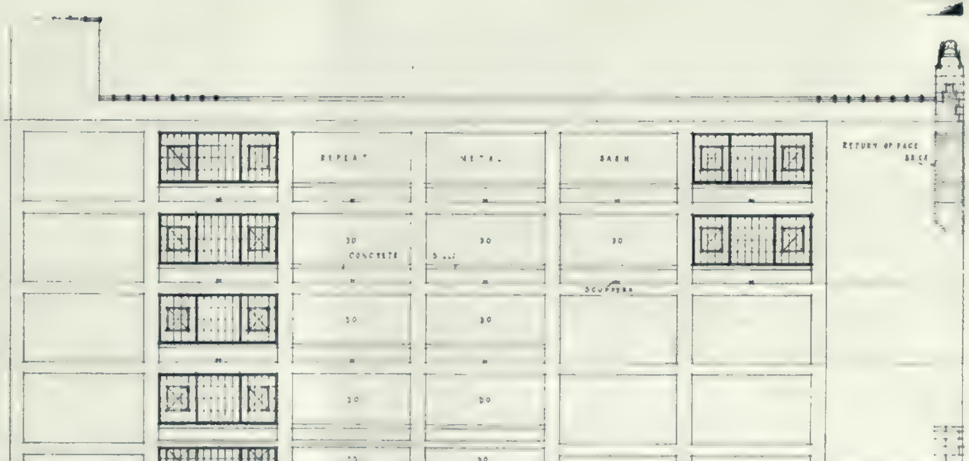
TYPICAL FLOOR PLAN.



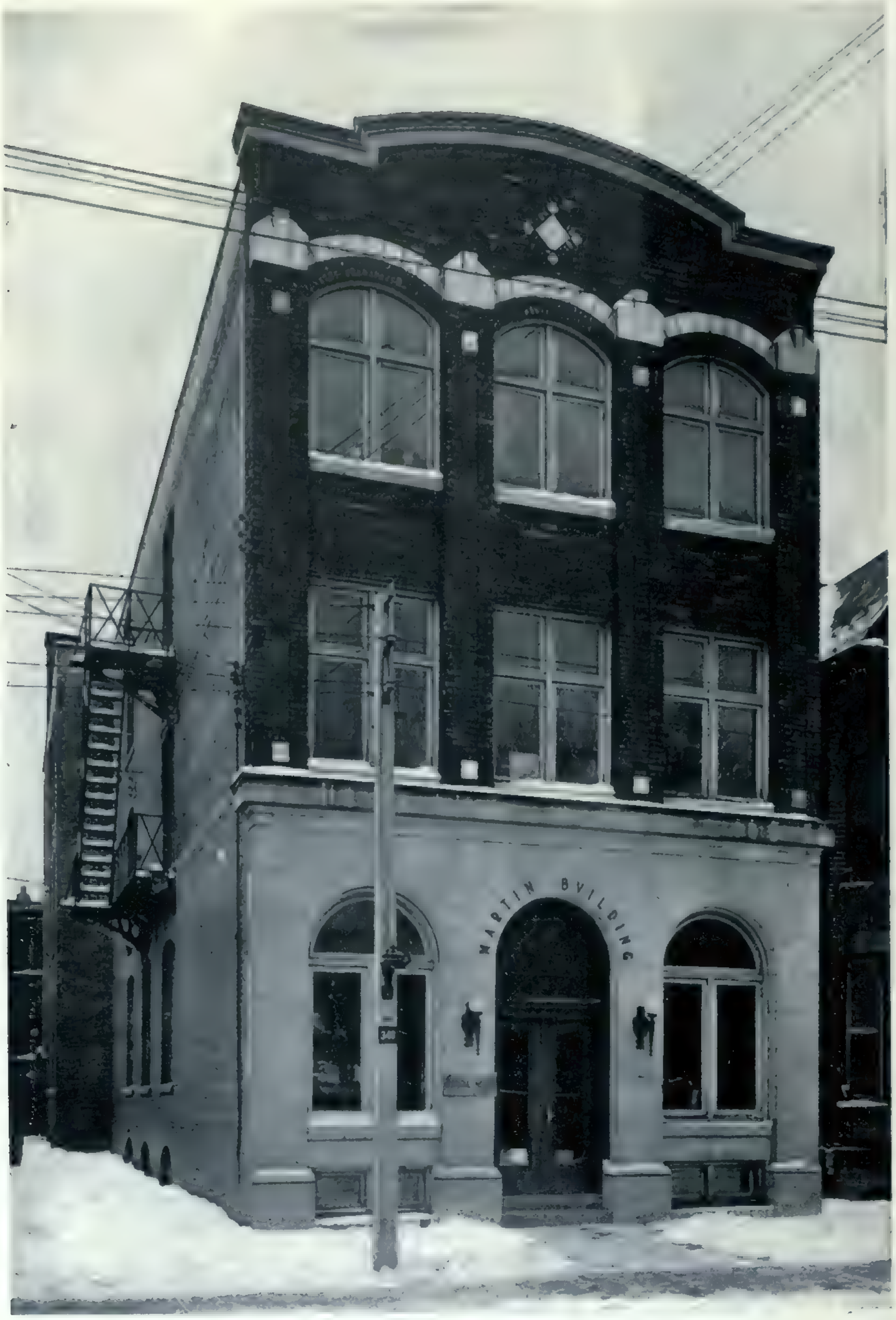
DETAILS OF ENTRANCE.



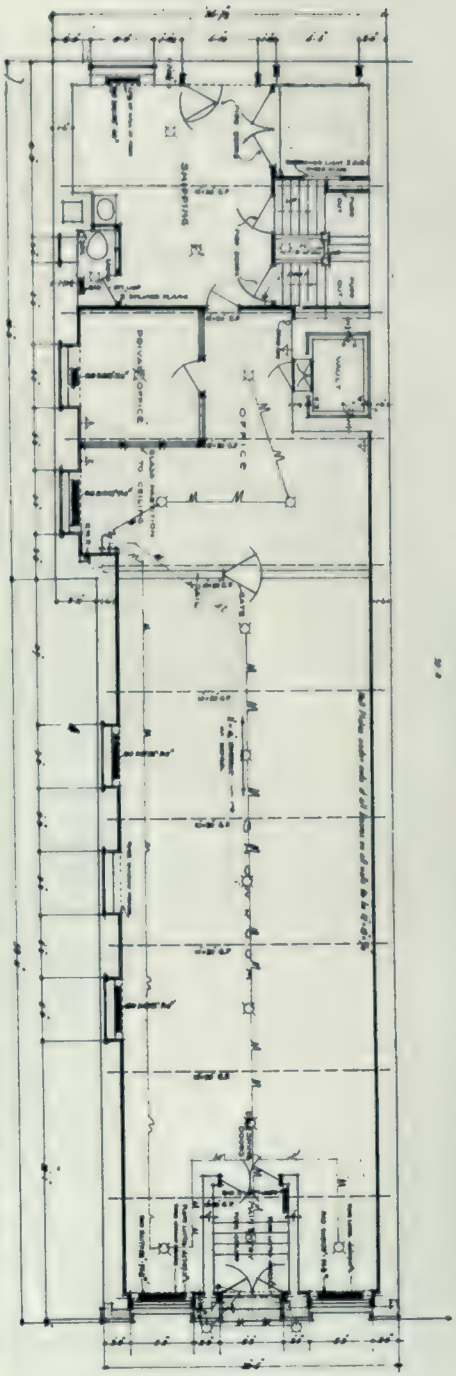
REAR ELEVATION



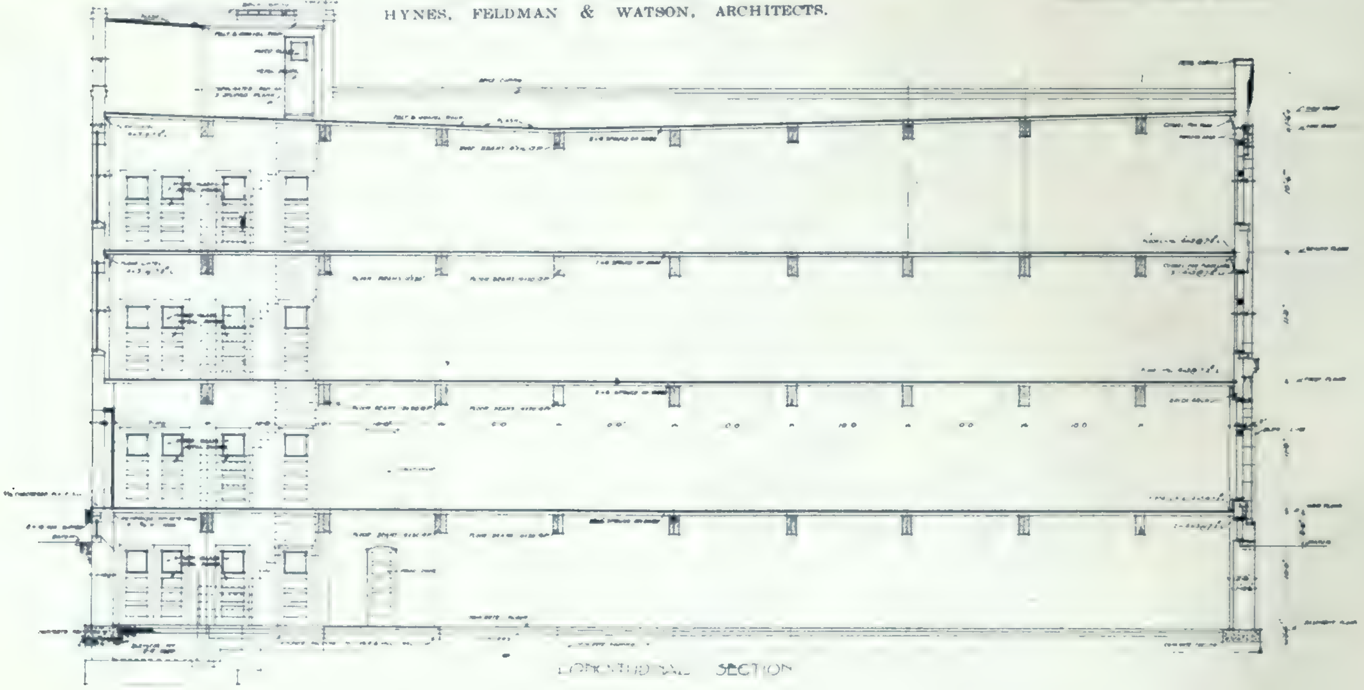
WEST ELEVATION.



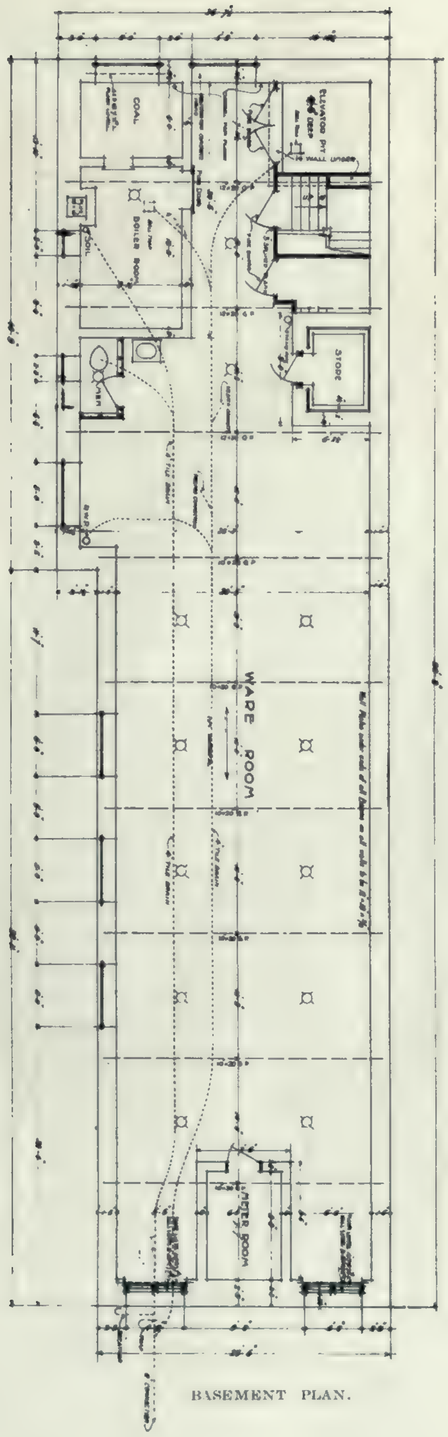
THE MARTIN BUILDING, TORONTO.
HYNES, FELDMAN & WATSON, ARCHITECTS.



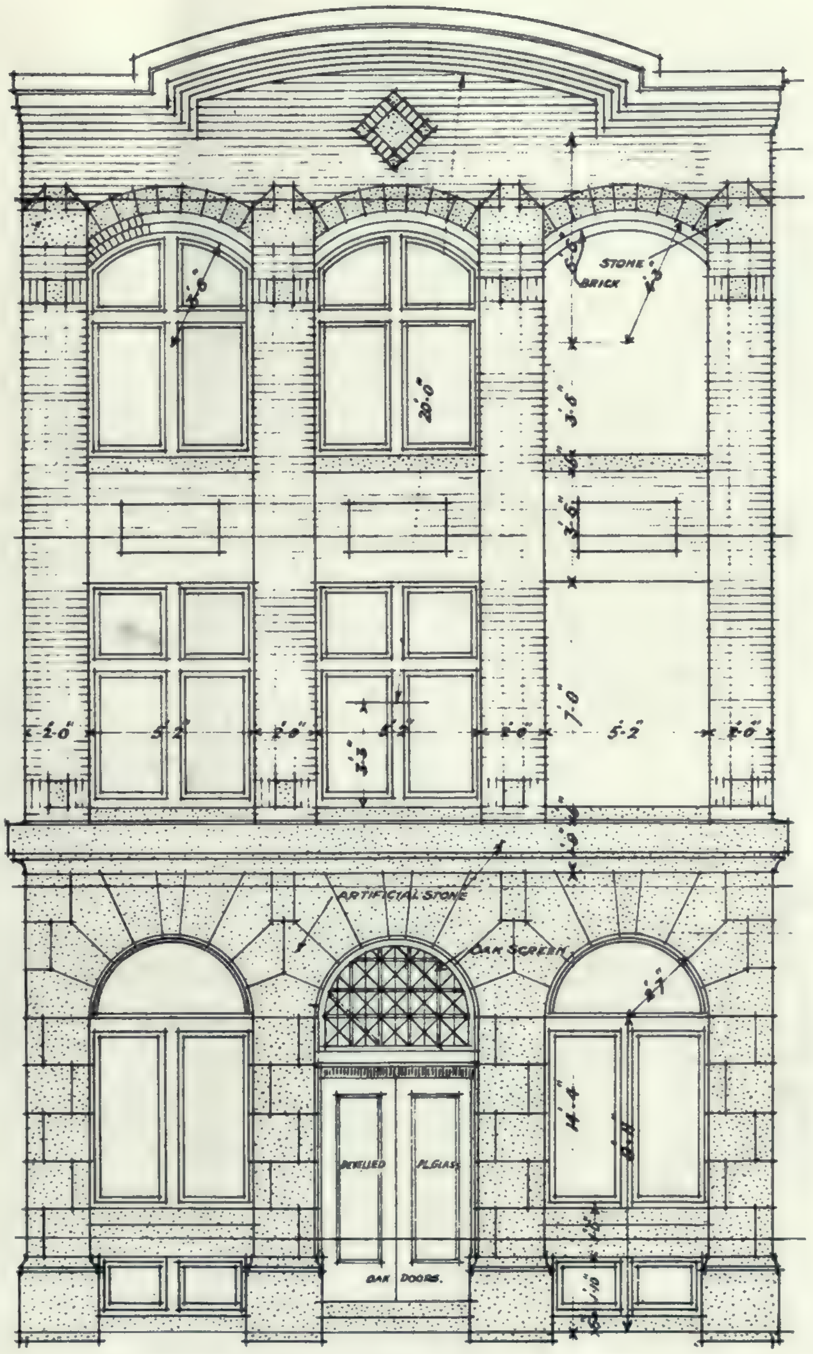
GROUND FLOOR PLAN.



LONGITUDINAL SECTION



BASEMENT PLAN.

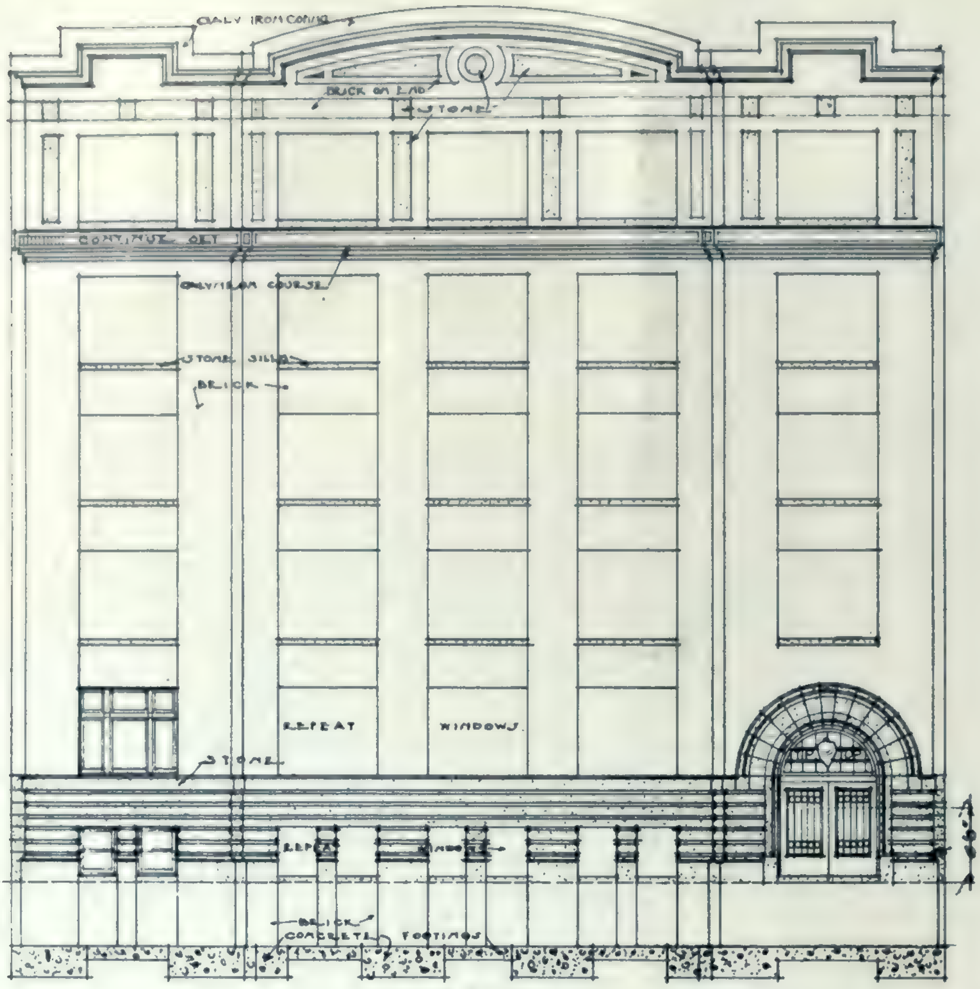


FRONT ELEVATION, THE MARTIN BUILDING, TORONTO.
HYNES, FELDMAN & WATSON, ARCHITECTS.

present five storeys at such time as future space is required. As in most cases of buildings of this character, the layout involves no special feature of plan, following a simple open interior arrangement with separate offices and the usual service features. All floors are exceptionally well lighted by steel sash windows occupying the entire space between the piers along both sides and the rear of the structure. The heating is done by steam from an exhaust off two tubular boilers which heat two adjoining buildings owned by the same firm. An electric elevator service and other up-to-date features makes the equipment modern throughout. Red stock brick with Indiana stone trimmings, is used for the front of the structure, a detail of the doorway being shown in an accompanying illustrations. The dimensions of the building are 40 x 130 feet, and the cost of its erection complete was $80,000.

The Prest-O-Lite Building, Centre Avenue and Elm Street, Toronto, is of beam and slab reinforced concrete construction, 70 x 120 feet. It is of the typical modern factory type, flooded with light and having modern service features. The equipment includes an electric elevator, and a single pipe gravity steam heating system. The floors are designed for a live load of 150 lbs. per square foot, and rug brick having a pleasing textural character is used for the spandrils and parapet.

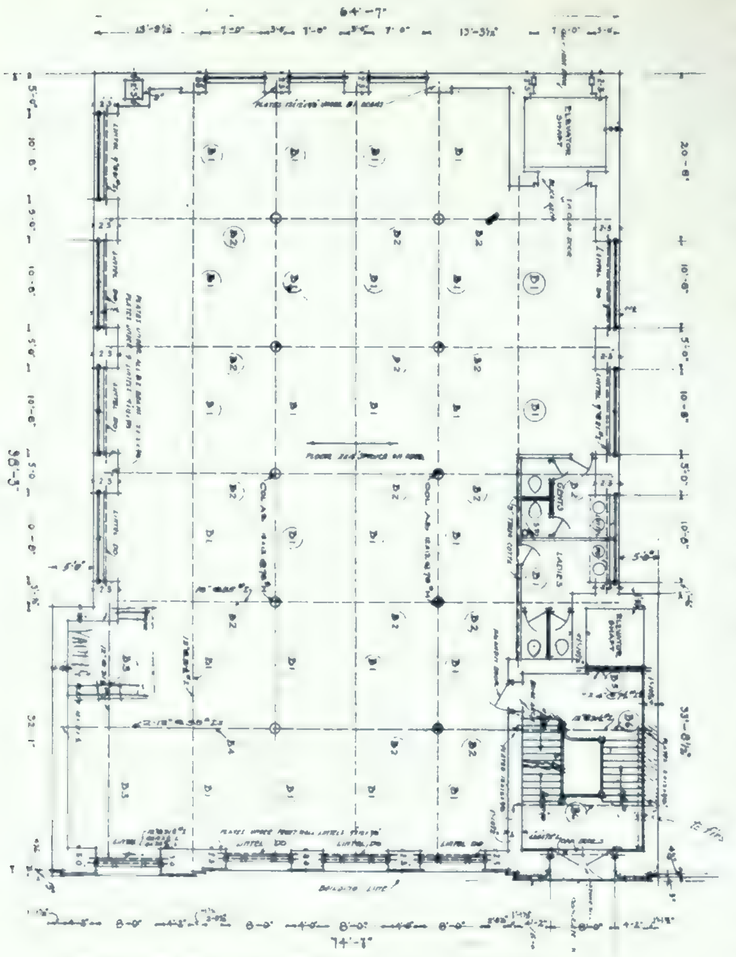
The Martin Building, 340 Richmond Street,



FRONT ELEVATION.

W., Toronto, is a three storey building of mill construction devoted entirely to warehouse purposes with general and private offices, vault and shipping room occupying the rear portion of the ground floor. The lower portion of the facade is carried out in artificial stone with tapestry brick above having square sunk joints ⅝ inch thick. Goods are received and shipped through a private lane at the side. The building is heated by a single pipe steam gravity system with a cast iron boiler, and was built at a cost of $20,000.

The Tip Top Tailors' Building, 256 Richmond Street, W., Toronto, is of steel frame type with mill floors. It is a comparatively recent example showing the use of terra cotta in the architectural treatment of work of this character. Indiana limestone is used for the base to the ground floor window sills in front. The entrance hall is in marble, and the offices finished in quarter cut oak. Electric passenger and freight elevators and ornamental iron stairs afford means of communication to the upper floors. All equipment including the plumbing and heating service, is up-to-date throughout. The building cost $75,000.



GROUND FLOOR PLAN. TIP-TOP TAILORS' BUILDING, TORONTO

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The Advantages of Amalgamation

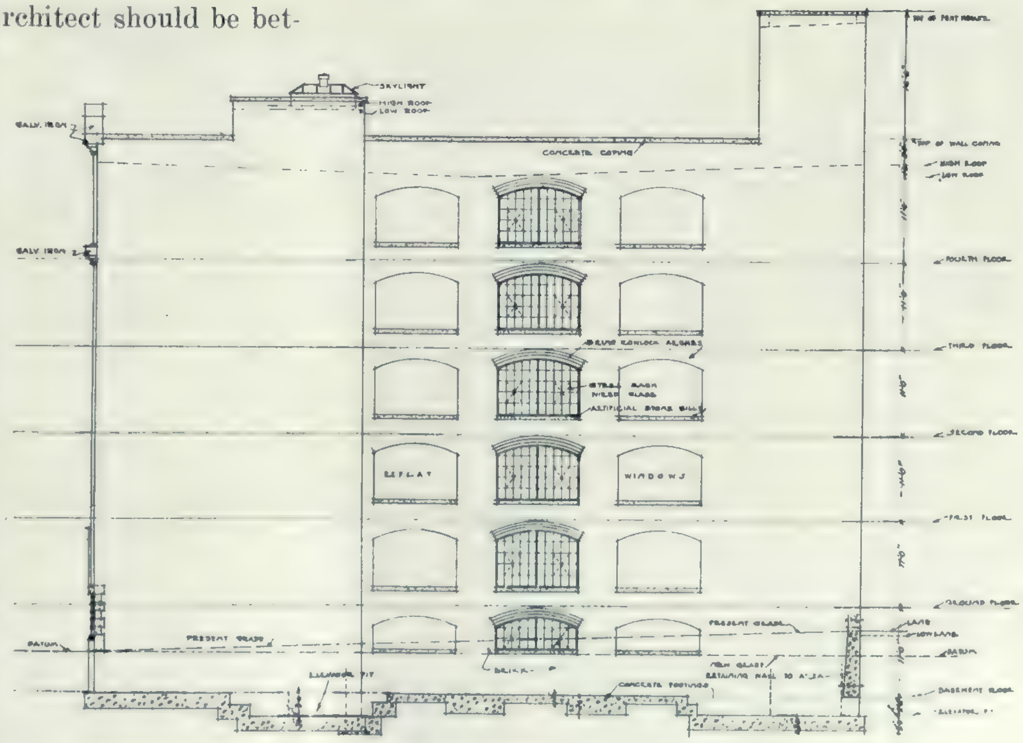
The following editorial from the "Architect and Contract Reporter" (London, England) makes interesting reading, even though architectural opinion in this country is not perhaps ripe to endorse altogether the proposal the writer sets forth. With allowances for the reference to the surveyor as a competitor of the architect, which applies particularly to England, the conditions mentioned are not dissimilar to those existing in Canada, which in certain respects have on previous occasions been given thought and attention.

Most of the architects' difficulties, say our contemporary, arise from the fact that architects are not as an organized body sufficiently in touch with the commercial world in which they live, while men of other professions are, and the amount of work they will as a body obtain in the future will be largely governed by their success or failure in adjusting themselves to modern conditions.

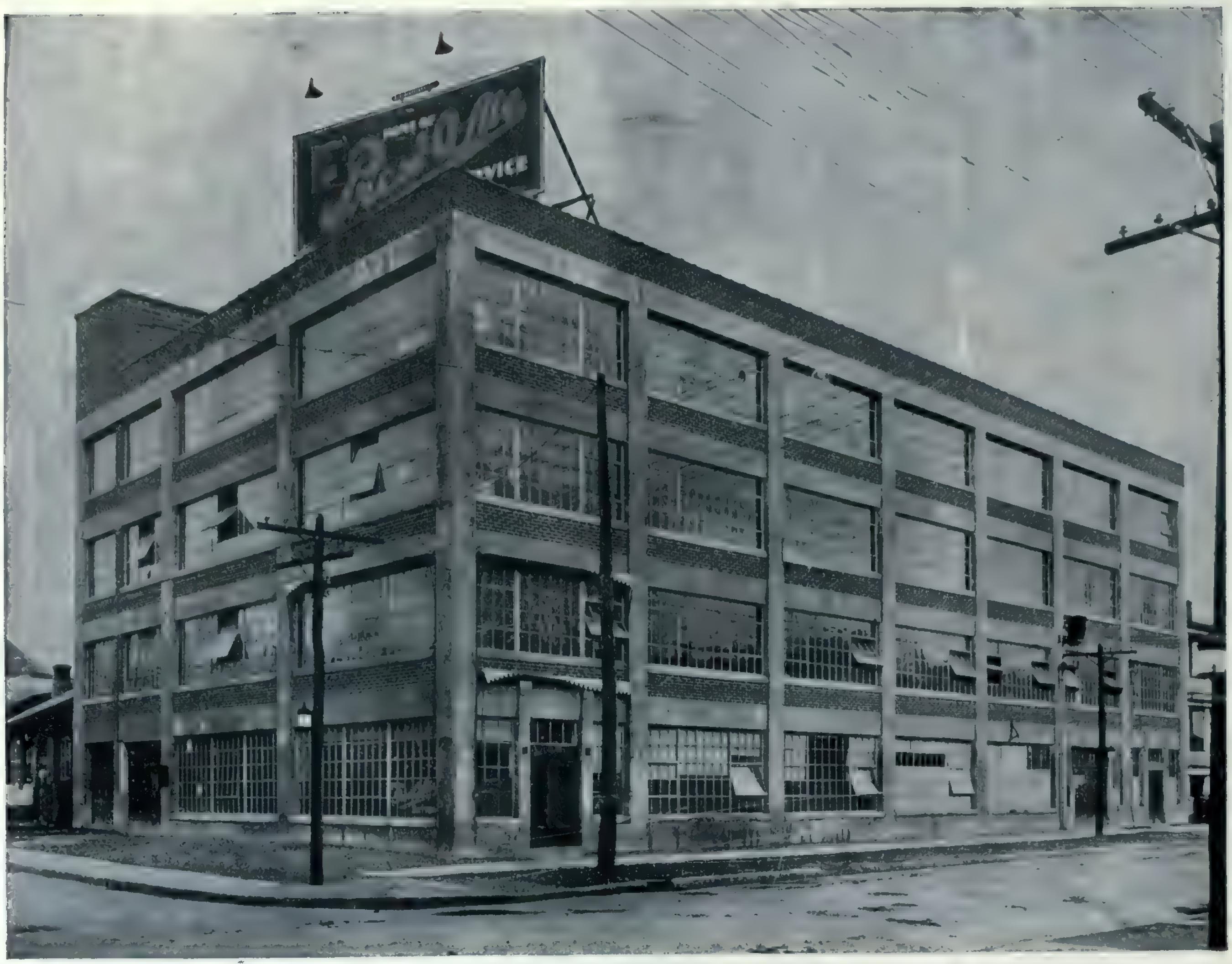
There are many directions in which they should work with, instead of apart from, men of other callings. So-called professional etiquette should be simplified so that its prohibitions simply forbid what is obviously dishonest and unfair, and every man should be left free to exercise his calling under conditions which appeal to his temperament.

The great bulk of domestic architecture is at present carried out by speculative builders, because the average man prefers to buy what he can see rather than what is shown to him on paper. Knowing nothing about the technicalities of building, he very humanly reduces the element of chance to its smallest proportions. And yet, if a district is to be developed by building, a good architect should be better able to provide what the public wants than any builder. We believe there are very wide opportunities open to those architects who are willing to build and sell on their own account, and also room for working combinations between builders and architects for the same purpose. The architect who made such an arrangement would be freed from the difficulties he sometimes has to contend with in the case of the individual client, for he would be dealing with an average demand, and his work

TIP-TOP TAILORS' BUILDING, TORONTO.



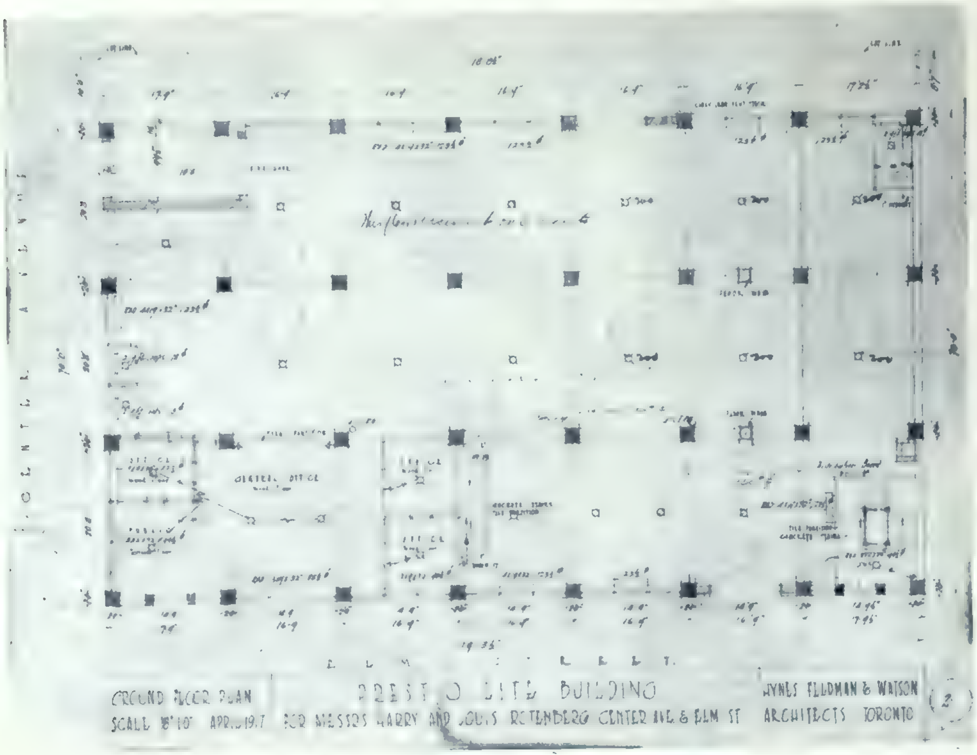
EAST ELEVATION



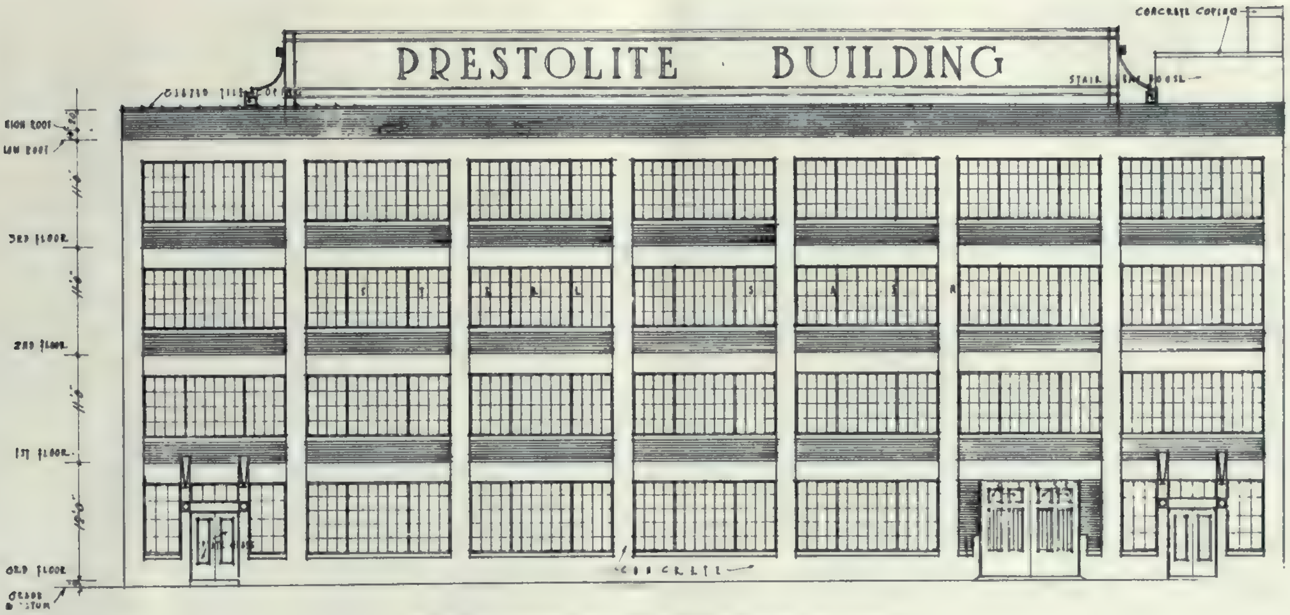
PREST-O-LITE BUILDING, TORONTO. HYNES, FELDMAN & WATSON, ARCHITECTS.

would be taken or left as it stood at completion.

Taking another combination, that of architects and surveyors, we know from experience that many men obtain opportunities of carrying out buildings because they are recognized by the business community as having experience in the practical questions which so closely surround and influence building. Once called in to advise on such questions, the surveyor usually can either act as architect for any buildings which results or decide the choice of an architect, and yet a very large number of our profession will state with pride that they do not undertake surveying work, thereby limiting their own chances of employment. The title of surveyor is an honorable and an old one; it conveys a definite meaning that the public is quick to appreciate, and many survey-



GROUND FLOOR PLAN. PREST-O-LITE BUILDING, TORONTO.



MAIN ELEVATION, PREST-O-LITE BUILDING, TORONTO.

ors make lucrative incomes while the average architect lives from hand to mouth, trying to obtain a public recognition which is grudgingly bestowed or altogether withheld from him.

There is also plenty of room in the world of modern building for the combination of architects and structural engineers in one and the same person. Most of the great American architectural firms include structural engineers in their ranks, and the modern business building always makes calls on the expert structural engineer. There are two ways in which this call may be met—by the architect having sufficient engineering knowledge to deal with such problems himself, or by a working combination which gives him the same power and at the same time enables him to devote himself to that branch of the work to which his inclinations incline.

The combination of architect with architect is frequently fundamentally wrong and productive of friction, for no two men have quite the same æsthetic tastes, and such combinations are for this reason frequently short-lived. The combination of architects and structural engineers would result in enlarging the architect's field, while the intercourse involved would broaden the outlook of both architect and engineer, and would result in the production of better buildings. If we rely, as many of us do, on outside help in these matters, we can seldom be certain that there is a community of interest or aim, and if there is not the quality and character of the work must suffer.

Then there is yet another combination which might appeal to many men of æsthetic tastes—that of an architect and a decorative firm. These firms, like the speculative contractor, are willing to undertake the complete direction and completion of what is really an integral branch of architectural work, which frequently suffers in quality from being divorced from the direction of architects who understand the fuller meaning of decoration.

Our point is that we are too apt to overlook the natural inclination of the public to prefer to buy and pay for the completed work, and to employ those who have the business knowledge and organization which alone enables them to complete it. We urge that our professional societies should encourage and not discourage all those who who find they can do better for themselves by making a more commercial use of chances which are open to them. The only real essential is that such work should be done honestly and well by men who are both trained and organized, and that no man should abuse a position of trust. We should like to see the Royal Institute open its doors to all who had knowledge and skill in architecture and the allied arts and sciences, however they chose to put such knowledge and skill to account, and, as a correspondent urged in a letter to us last week, we should like to see the leading body in the profession expressing a definite and corrective opinion on all great questions of public improvements and schemes for building. We should, in a word, like to hear its views before and not after other bodies less capable of giving authoritative opinions had criticized such schemes.

In New Offices

The architectural firm of Banigan, Mathers & Thompson, Toronto, announce that those of its members who were on active and industrial war service have resumed architectural practice. The firm also announce that they are now occupying their new offices at 7 and 9 King street east, fourth floor.

CONSTRUCTION

A · JOURNAL · FOR · THE ARCHITECTURAL
ENGINEERING · AND · CONTRACTING
INTERESTS · OF · CANADA

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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

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WESTON WRIGLEY, Business Manager

FRED. T. HOLLIDAY, Advertising Representative

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Ontario Government Housing Scheme

According to a circular recently issued by the Ontario Government, municipalities and companies incorporated under the Housing Accommodation Act will, as soon as necessary legislation is enacted, be empowered to acquire land and construct houses for returned soldiers and working men and women of small means. A fund for this purpose will be available through the recently-announced Dominion Government loan, which will be reloaned by the province to municipalities for a period not to exceed twenty years at an interest rate of 5 per cent. The conditions will also carry certain restrictions in reference to the laying out of land, the plan and construction of the houses, and the location of the land to be developed, which shall be approved by the Director of the Bureau of Municipal Affairs, or such person or body as shall be designated for that purpose.

Loans will be made to the extent of the full amount required in cases where municipalities acquire land and build houses on their own accord, and to the extent of 85 per cent. of the value of the land and improvements in the case of housing companies. The type of houses are not to exceed twenty-five hundred dollars in cost for the construction of each house. Individuals desiring to build for themselves can secure a loan through the municipality for the full value of the building, providing they own their own land and intend to erect houses for their own occupation. This privilege is also to be extended to farmers owning their own land and desiring to build for themselves, and also to any person for the erection of a house on municipally-owned land, providing he contributes in cash the value of the lot, or 10 per cent. of the whole cost.

The scheme is not without features to recommend it. In the first place, it will make money more readily accessible to both municipalities and individuals for the purpose of relieving the housing situation. In the second place, it offers money at a rate of interest considerably lower than that demanded by private loan companies. In the third place, it gives an opportunity to the individual to become possessor of his own home at a small outlay spread over a given period. Repayment will be made at the rate of 8 per cent. per annum, which will cover both interest and reduce the principal. Thus, on the basis of a total investment including land and building to the value of three thousand dollars, the amount to be paid out annually by the owner would not exceed the sum of two hundred and forty dollars ($240), which is equivalent to twenty dollars a month, an amount at the very least the individual nowadays would be required to pay for rent.

Considering the present rate on private loans, which is at least 7 per cent. on the loan itself without any regard to the reduction of principle, the Government's plan offers a decided advantage, especially to that class whom the scheme would particularly benefit. The advantage mainly lies in the fact that the scheme only requires a small initial outlay, while money which the individual would otherwise be required to pay for rent is converted into an equity in a property which eventually becomes his own.

While taxes and insurance must be taken into account, the decrease in liability would in the course of a few years offset this to the extent that the average payment, unless otherwise desired, would not exceed a maximum annual expenditure of the amount mentioned. Of course, the owner would have the option of reducing his debt as rapidly as possible, and the scheme is of a character which would encourage this to a great extent.

Just what character the restriction to be imposed will assume in reference to the development of land and the erection of buildings thereon has not as yet been announced. It is stated, however, that the Ontario Housing Committee will shortly issue a report recommending various types of houses and providing plans and specifications for same, and perhaps more definite particulars as to conditions will then become known. Already a large number of municipalities have signified their intention of taking advantage of the Act. Whether or not it will adequately meet the situation or work out successfully in a general economic way, it will prove noteworthy as an experiment. It at least shows an earnest effort on the part of the Provincial authorities to deal with a serious and important problem, and perhaps marks the beginning of what will eventually resolve itself into progressive and effective housing and town-planning legislation.

Placing Credit Where it is Due

The principle of rendering "unto Caesar what belongs to Caesar" has been established since early days. Perhaps in a more modern sense it implies among other things a voluntary or optional act of placing credit where credit is due. We say voluntary or optional because as regards newspapers at least this practice is not always enforced, and when it is observed it sometimes happens that an inadvertency occurs which is most unfair to certain individuals and decidedly misleading as far as the public is concerned. The particular reference here is to a rather unfortunate mis-statement made by one of the leading morning dailies in reference to the designing of the Canadian Bank of Commerce at Montreal, and which Sir John Aird, General Manager of that institution, has taken the trouble to correct in the following letter published recently in the Toronto "Star."

> Sir: My attention has been drawn to the extraordinary mis-statement made by a morning paper that the fine building of the Canadian Bank of Commerce in Montreal, was built by the late Stanford White. Where this information can have been obtained I do not know, but in view of the injustice done to a local firm of architects I desire to say that the building in question was designed, and its construction supervised, by Messrs Darling and Pearson, of Toronto, also that the stone used in its construction, Stanstead granite, is Canadian stone. Furthermore, I should like to add that the Canadian Bank of Commerce has not in many years employed an architect from the United States. The handsome buildings of the bank in Montreal, Winnipeg, Quebec, Vancouver, and many other places throughout Canada, are the product of the brains of Canadians. The motto of the Bank has been and is—Canadian architects, Canadian workmen, Canadian materials. I write this in order that a local firm may not be deprived of the credit which is due to them.
>
> Yours faithfully,
>
> JOHN AIRD,
>
> Toronto, Dec. 7. General Manager.

The above letter requires little comment other than to emphasize the moral it points out as to what can be done by our newspapers in giving correct information as to the designers of our principal buildings. Canada is still a young country passing through a very progressive stage and its accomplishments from an architectural standpoint are quite worthy of note. It is indeed laudable on the part of the newspapers when space in their columns is devoted to illustrations and articles dealing with our more important edifices. The erection of buildings concerns the development of the country, and likewise the names of those responsible for the design of these structures form a related item of public interest.

While the mistake mentioned was evidently an unintentional oversight, it was nevertheless unfortunate that the real authors of the building should be obscured in a confusion of names. Sir John Aird's letter is therefore much to the point, and it denotes a spirit of patriotism on the part of the Canadian Bank of Commerce which other institutions might emulate with credit to themselves and much general good to the country. As Canadians we should recognize our own handiwork and place credit where it rightfully belongs. It is surprising the small number of men even at the head of our financial and business institutions, who are aware of the authorship of our best designed buildings. Few in Toronto alone have knowledge that the four office buildings at the corner of King and Yonge streets, are the work of Canadian architects, and this is typical as regards the better class of architectural design in practically every Canadian city. It is a state of unconsciousness regarding our own achievements which is to be regretted. Public recognition is always an incentive to higher efforts, and newspapers can more completely fulfill their functions by informing their readers of such interesting and related facts. To do so is to render a better news service and to stimulate public interest in Canadian capabilities and accomplishments.

Saskatchewan Association Elect Officers

The Saskatchewan Association of Architects have elected the following officers for 1919: President, Captain David Webster, Saskatoon; Vice-Presidents, Norman Thompson, Saskatoon, and W. G. Van Egmond, Regina; Secretary-Treasurer, Francis B. Reilly, Regina. Member of Council: Prof. Greig, Saskatoon University; R. G. Bunyard, Moose Jaw; M. W. Sharron, Regina.

The Association is at present preparing an honor roll of all its members who served in connection with the war, which will be ready shortly.

A NEW CONCRETE HARDENER.

Frederick Reed, former editor of CONSTRUCTION, now associated with Sturgeons, Limited, 91 Church Street, Toronto, has been spending the past two years in perfecting the made-in-Canada "Flintex," a chemical hardener for concrete floors. This material, after severe tests by the authorities on concrete relative to its hardness, wearing qualities and impermeability to water, oil, acid, etc., has proven eminently successful in making concrete floors proof against the hard usage to which they are subjected.

◆

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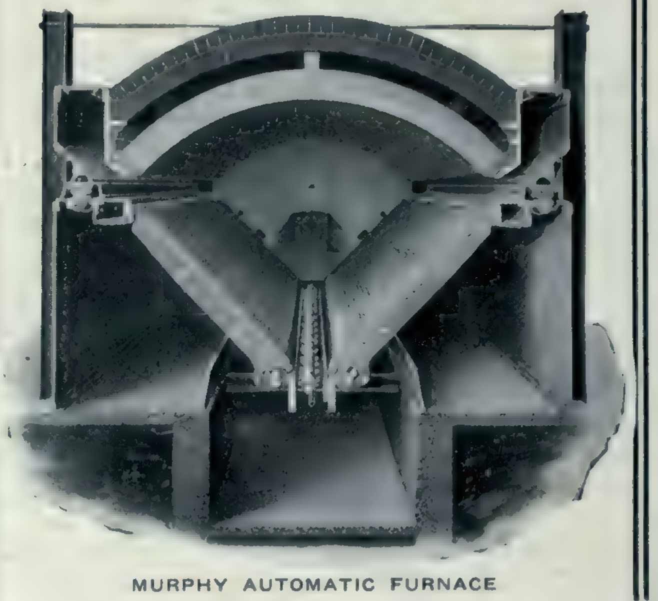

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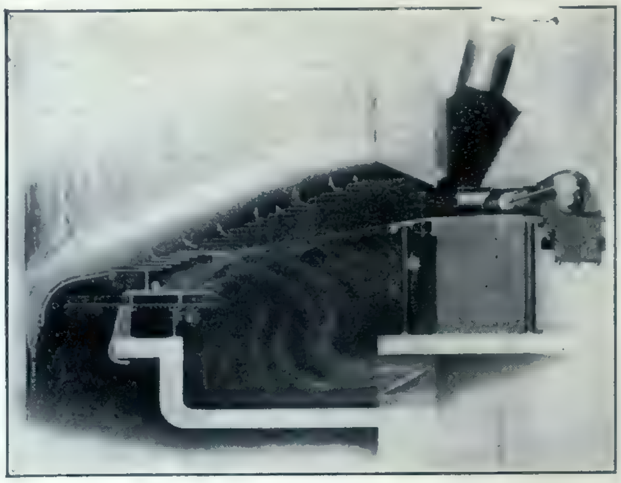

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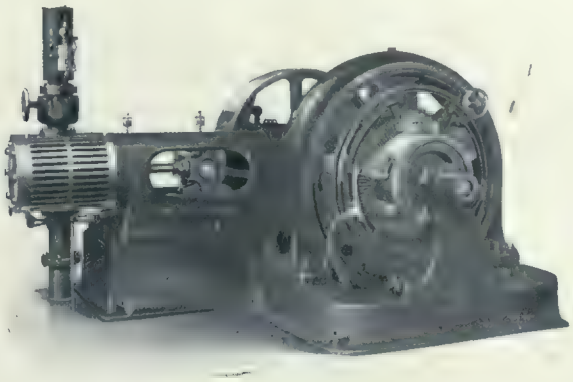

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Shadows Cast by Skyscrapers

At noon, on the shortest day of the year, the shadows of different skyscrapers envelope large areas, states *Building Management*. The Adams Express Building, New York, which is 424 feet high, casts a shadow 875 feet in length; the Equitable Building, which is 493 feet high, one 1,018 feet in length; the Singer Tower which is 540 feet high, one 1,127 feet in length; and the Woolworth Tower, which is 791 feet high, one 1,635 feet in length.

The effect of skyscrapers casting shadows from a sixth to a third of a mile in length on surrounding property is well illustrated in the case of the Equitable Building. Its shadow which at noon on December 21 is about one-fifth of a mile in length, completely envelops an area of 7.59 acres. The ground area of the Equitable Building is only 1.14 acres.

The shadow cuts off all sunshine from the Broadway facade of the United States Realty Building, which is twenty-one stories high. The New York Title & Mortgage Company Building, fourteen stories high, and the Washington Life Insurance Building, nineteen stories high, are both completely shaded. The south side of the Singer Tower is shaded to a height of twenty-seven stories. The nearest part of the City Investing Building, 400 feet away, is in shadow for twenty-four of its twenty-six stories. Even part of the New York Telephone Building north of Cortland Street is shadowed by the Equitable Building.

Cedar Street, the street immediately north of the Equitable Building, has an average width of 34 feet between Broadway and Nassau Street. The height of the Equitable Building is fourteen and a half times the width of this street. On a north and south street of this width in New York, uniformly improved on both sides with buildings having a height equal to that of the Equitable Building, only 9.31 per cent. of the windows would receive any direct sunshine at noon on the shortest day in the year. On north and south streets only the windows nearest the top for a distance equal to 1.35 times the width of the street would receive direct sunshine at noon on December 21 at New York (40 degrees North Latitude). The windows in the first thirty-four stories nearest the ground would receive absolutely no direct sunlight. Direct sunlight would only enter those windows in the four stories nearest the top. Not a single window within 447 feet of the street level would receive a ray of direct sunshine.

The Equitable Building is, of course, an extreme case. But even in much lower buildings a considerable number receive absolutely no direct sunshine at the winter solstice. Up to a height equal to 1.35 times the width of such a street all the windows receive some sunshine. If the street, however, is improved with buildings one and one-half times the street width in height, only 90 per cent. of the windows obtain direct sunshine.

SHIP-BUILDING INDUSTRY FOR DEVASTATED PORT OF HALIFAX.

The picture overlooks Halifax Harbor in a section which was ruined by the great explosion of December, 1917. The buildings along shore are the beginnings of a new government shipyard. The town of Dartmouth is seen in the distance.

CONSTRUCTION

February, 1919 Volume XII, No. 2

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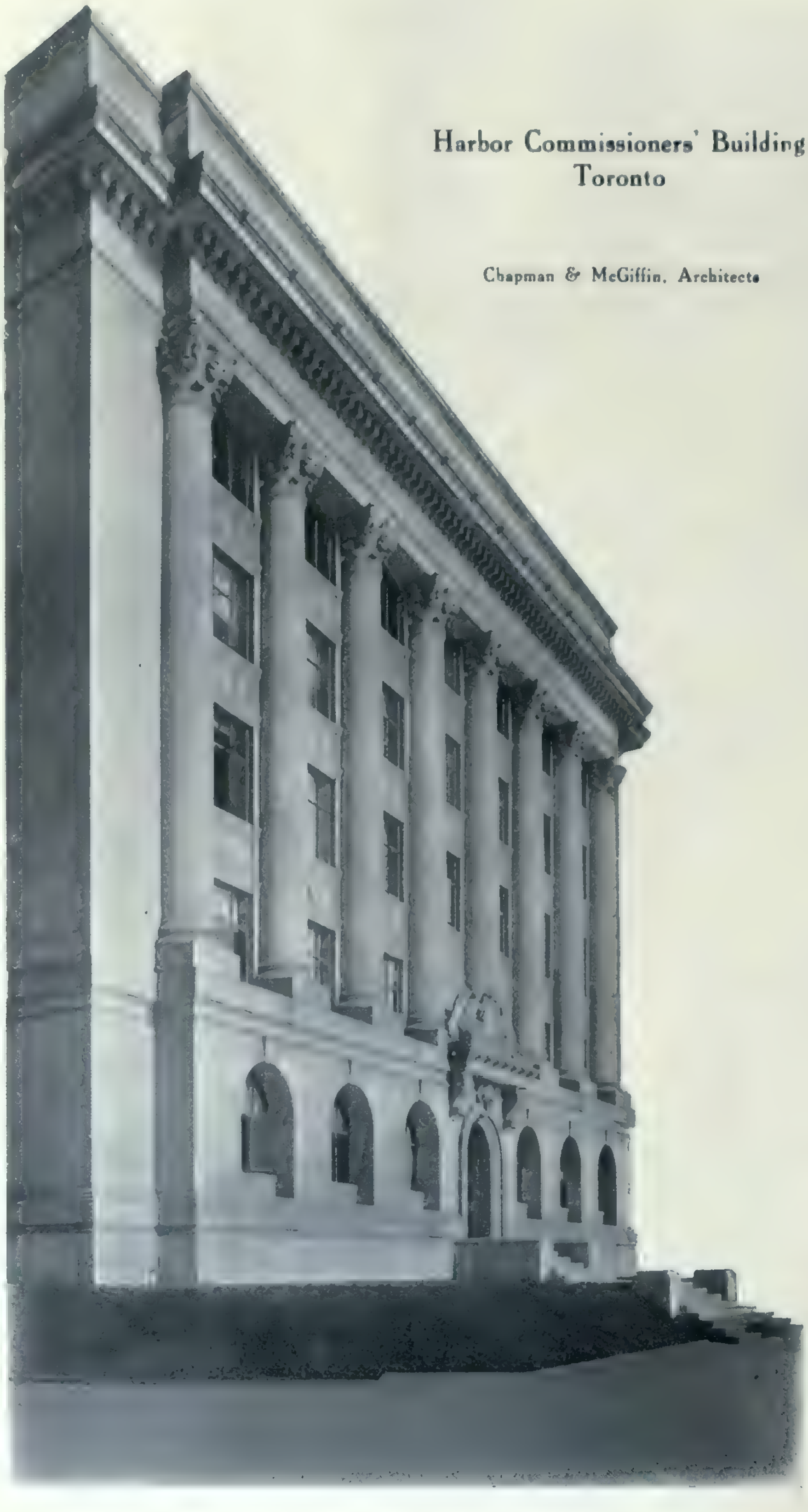
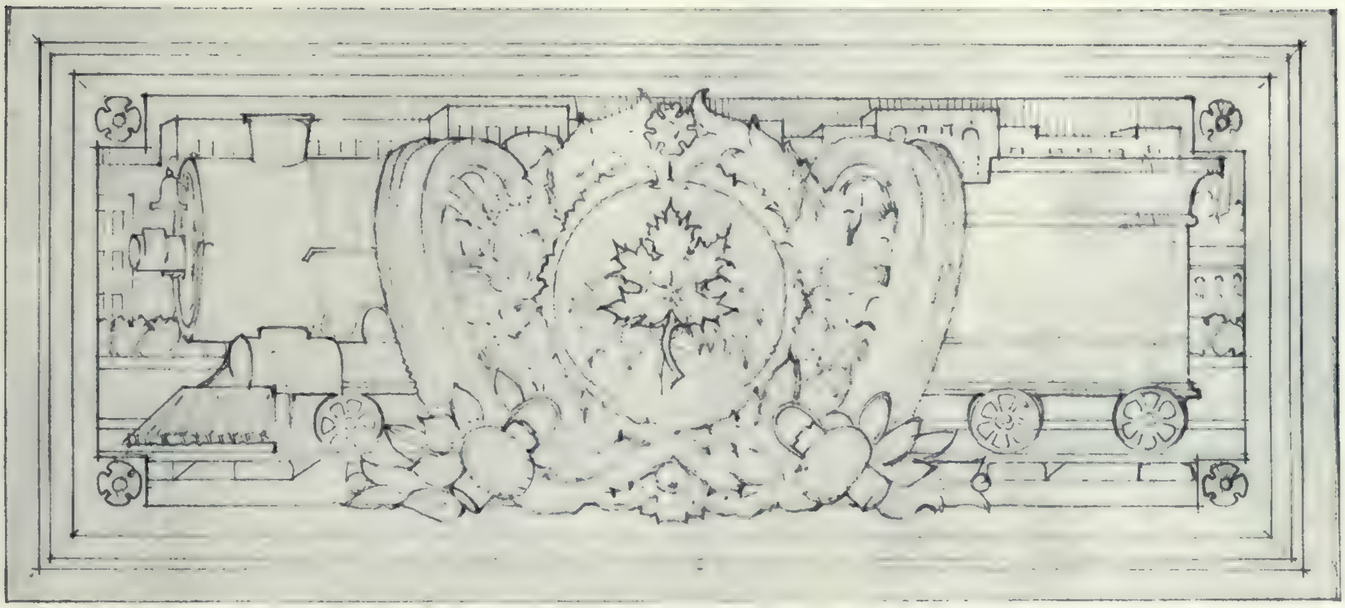
Harbor Commissioners' Building
Toronto

Chapman & McGiffin, Architects



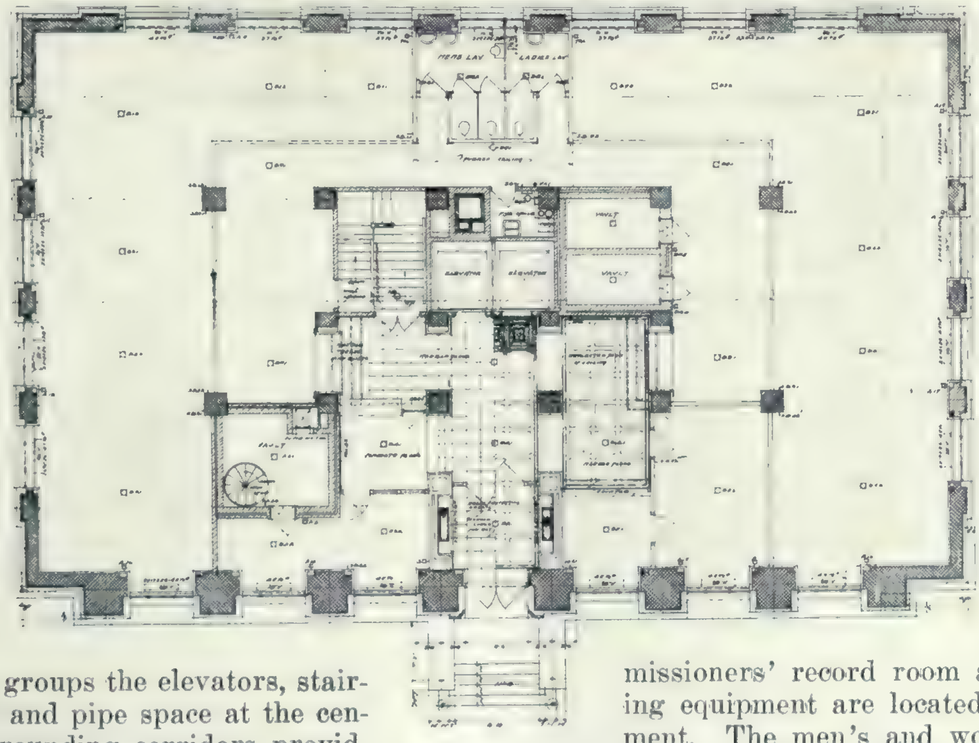
View Along South Front Overlooking the Bay



DETAIL OF TYPICAL PANEL BETWEEN 2ND AND 3RD FLOORS.

Harbor Commissioners' Building, Toronto

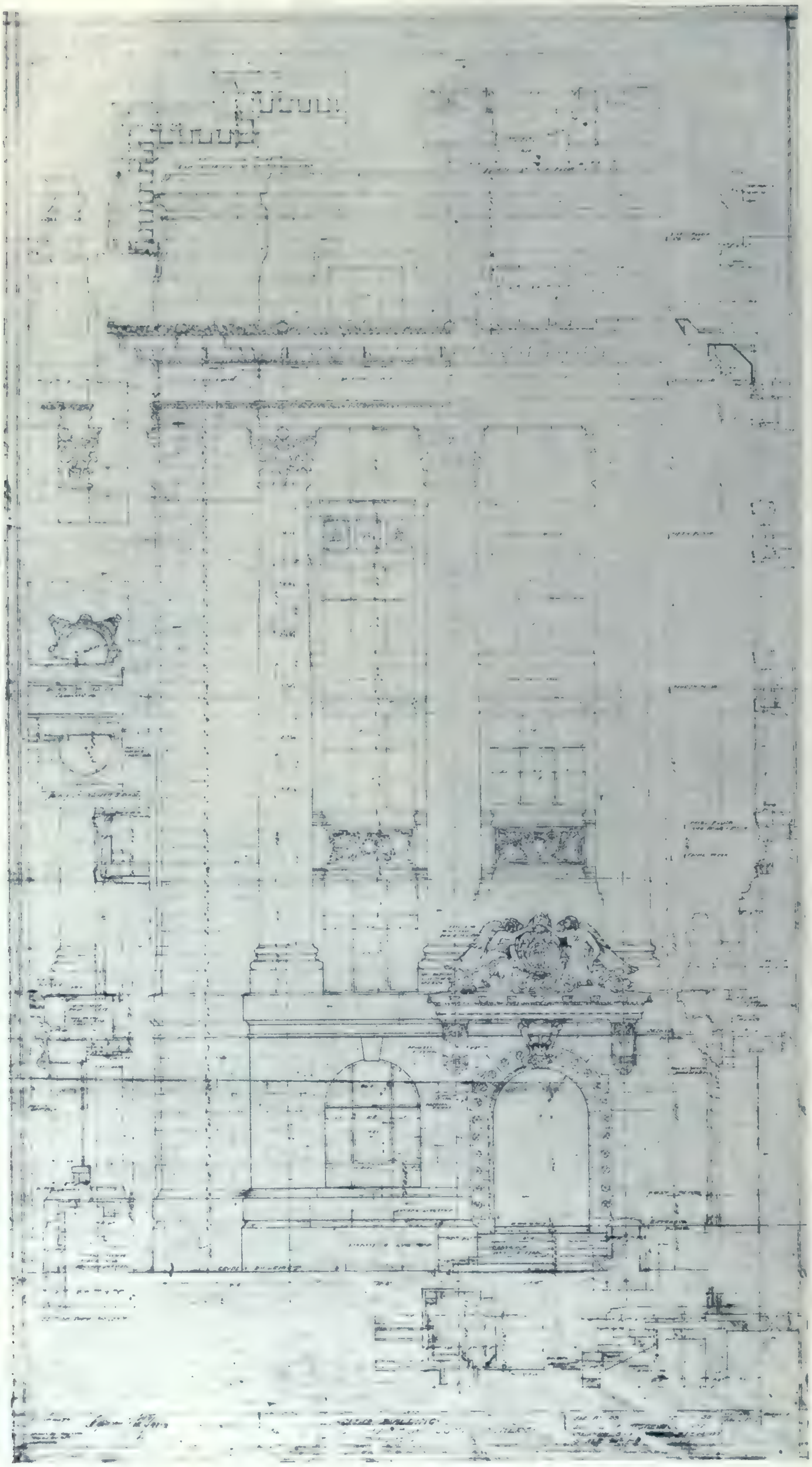
THE object of the new building erected on the waterfront for the Toronto Harbor Commissioners is to house the various departments coming under the Commission's jurisdiction, but further space than is necessary for this purpose has been provided and is rented as offices to private industrial and business concerns. The basement, first, second and part of the sixth floor are occupied as quarters by the Commissioners, and the remaining floors by the firms mentioned.



FIRST FLOOR PLAN,

HARBOR COMMISSIONERS' BUILDING TORONTO

The plan groups the elevators, staircases, vaults and pipe space at the centre with surrounding corridors providing access to offices on four sides. The entrance hall on the first floor is entered from the south front, and has the telephone switchboard on the west side, the Harbor Master's offices east of the entrance, while directly opposite the doorway are the elevators. The head executive department is on the second floor on the south side of which at the centre is situated the Commissioners' room, thirty-five feet by seventeen feet by thirteen feet six inches high. On the sixth floor is the Commissioners' drafting department and a lunch room for the use of the tenants. The janitor's quarters together with a blue print and photographic department, Commissioners' record room and the heating equipment are located in the basement. The men's and women's toilets are located at the centre of the north front on each floor with the ceiling of the corridor between them and the pipe space lowered to con-



DETAIL OF MAIN FACADE, HARBOR COMMISSIONERS' BUILDING, TORONTO.

ceal the plumbing pipes.

The appropriation and the times did not justify the erection of a monumental civic building, but the important position demanded a robust treatment on a large scale. This has been obtained by solid corners and a bold simple lower story with arched windows. Above this the order extends through four floors, terminating with an attic floor with small windows connected together by a simple moulding. Over the entrance a suitable sculpture group marks the centre of the building in a telling manner, and very happily contrasts with the simple lines of the building. Ornament has been but sparingly used and apart from the entrance consists of simple decorative work on the cornice, the top member of the architrave, and the panels between first floor windows. Depth and shadows are obtained on the south front by the use of three-quarter columns, while a pilaster treatment is used on the north, east and west sides.

ENTRANCE HALL, HARBOR COMMISSIONERS' BUILDING, TORONTO.

The entrance hall has marble walls and floor with a decorative plaster ceiling. The Commissioners' room is finished in walnut with large matched panels and is Georgian in character. The chimney piece and carved table and chairs are of the same material, the latter having been designed by the architect in the style of the room.

The building is supported on wood piles driven to rock. The floors are of reinforced concrete and the partitions hollow tile. The exterior is in Indiana limestone.

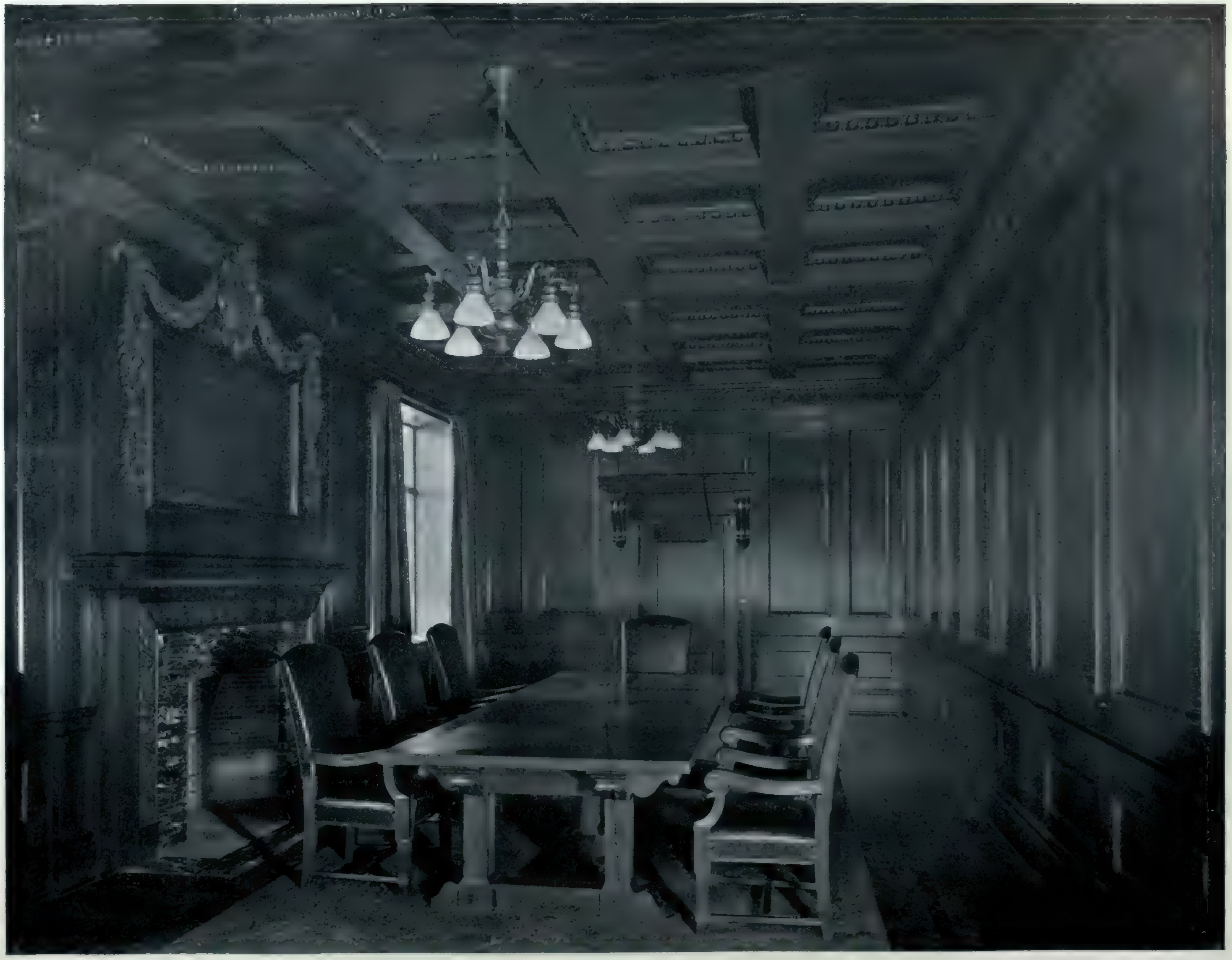
The plans for the building were commenced by the firm of Chapman & McGiffin, and completed after the dissolution of the partnership by Mr. Alfred Chapman.

◆

The harbor and waterfront improvements over which the Toronto Harbor Commissioners have control, as an undertaking of its kind, represents a scheme of surpassing magnitude. Together with certain improvements co-ordinated with the project which are being carried out by the Dominion Government, it involves the development of a waterfront industrial area, deep draft docking facilities, park and recreation reservations and extensive shore and breakwater developments.

Up to the present time 300 hundred acres of property have been reclaimed and made ready for factory and warehouse purposes, of which 160 acres are already under lease. This comprises the Ashbridge's Bay development where the large plant of the British Forgings is located, and the refilled property extending from the foot of Bathurst Street to a point a block east of Spadina Avenue, including the fifteen acre site now occupied by the Dominion Shipbuilding Company.

Approximately nine millions of dollars have been so far been expended by the Commissioners out of what will eventually represent an outlay of twenty-five millions. While the war was instrumental in retarding the harbor development to an extent which practically brought



Harbor Commissioners Building, Toronto. BOARD ROOM. Chapman and McGiffin, Architects.

operations to a standstill, the present prospects are that the immediate future will witness an active resumption of work on the project. A huge system of wharves and docks will be built along the main harbor front from Bathurst street to Yonge street, with the ultimate possibility of extending through to Cherry street on the east.

Along this stretch an 86 ft. thoroughfare will be constructed to be known as Fleet Street, with a 140 ft. reservation to the south for light manufacturing and light warehouse developments. Paralleling this again will be another strip, 104 ft. wide, for sidings and railway leads serving the property and also for the proposed radial entrance along the waterfront. All of this will necessitate the reclaiming or refilling of of water property extending out 330 feet from the present shore line, and exclusive of slips which will continue beyond this point. These slips will vary in length from 500 to 700 feet and be about 200 feet wide, having a depth of twenty-five feet, and will be capable of accommodating any boat which can pass through the new Welland Canal. The railway leads and sidings referred to will be on the surface level of the property with the radial coming in on a system of elevated tracks.

Besides the industrial sites already provided, the Commissioners have so far reclaimed 271 acres of lakefront park property. A very excellent refreshment pavilion has also been erected at Sunnyside where a protected watercourse for

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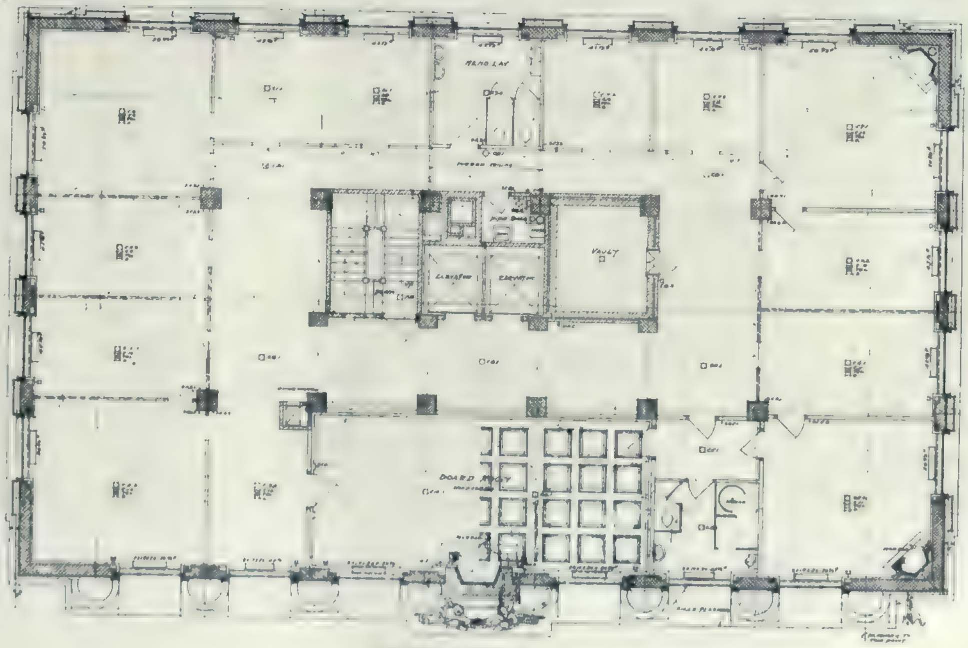
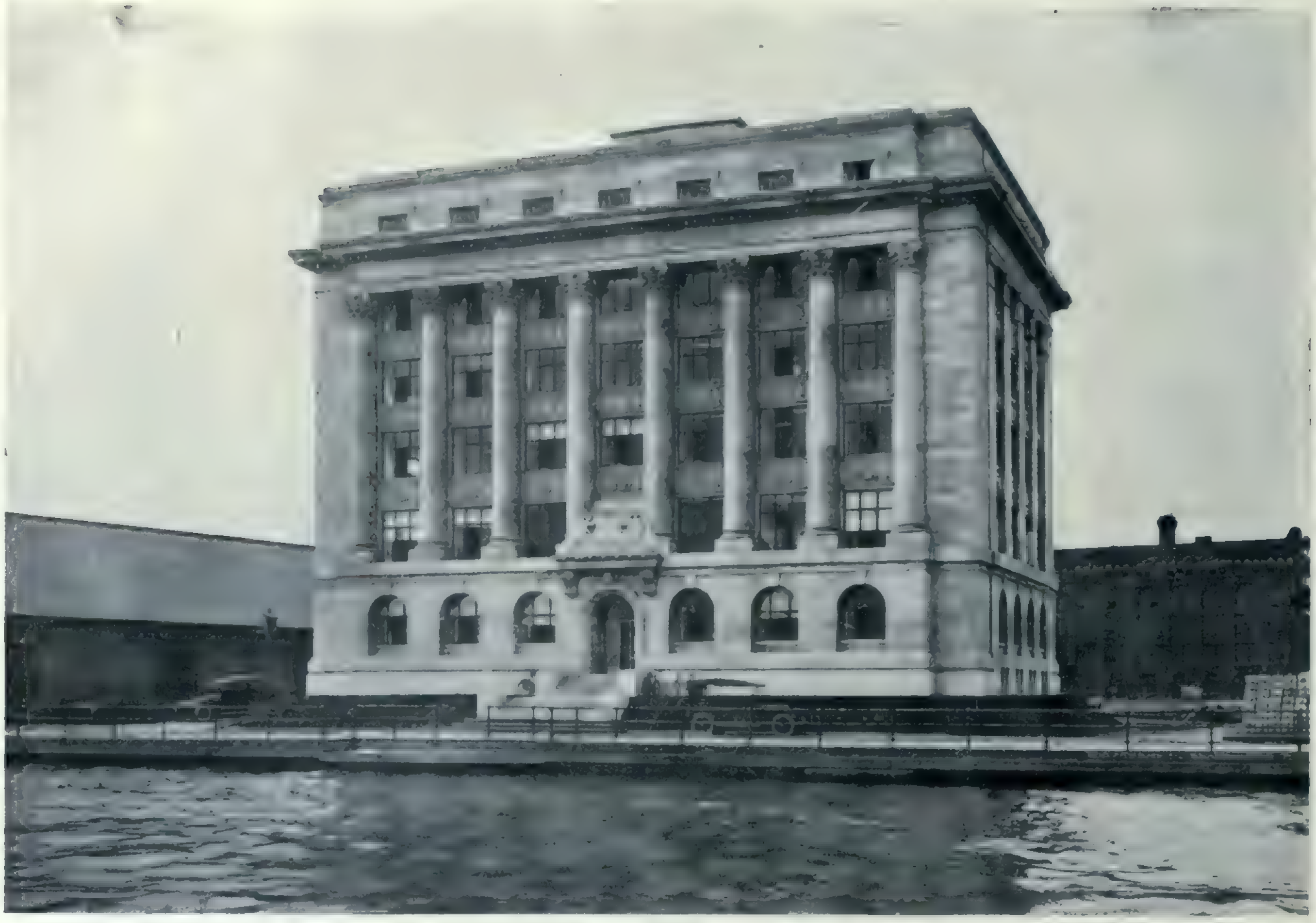


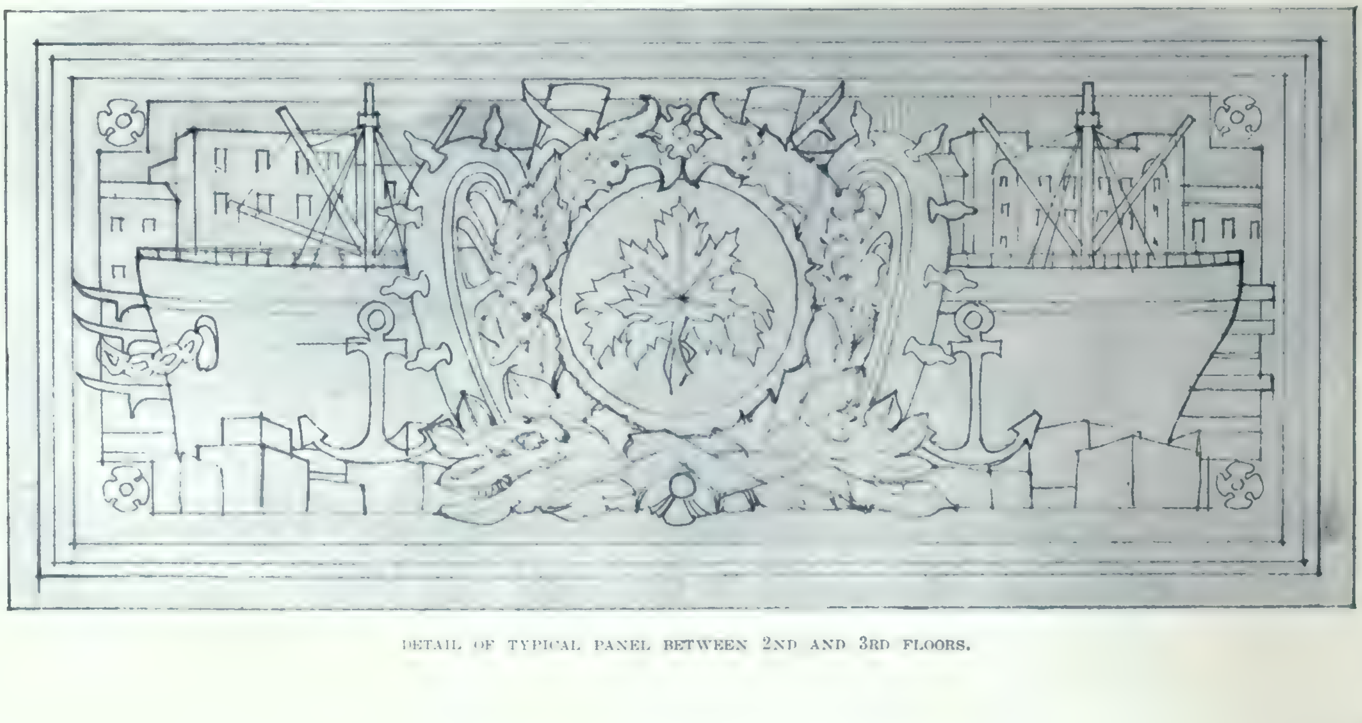
SECOND FLOOR PLAN.



HARBOR COMMISSIONERS' BUILDING, TORONTO. CHAPMAN & MCGIFFIN, ARCHITECTS.

boating is contemplated in the final scheme, while reservations for bathing places have been made at various points along the harbor front. Eventually bridges of the lift or basculi type will be built across the eastern and western channels. These will join the mainland with Toronto island and form the connecting link of a vast boulevard system which the city has in contemplation; thus making the harbor project one of the most comprehensive and attractive schemes which has ever been attempted.

Dr. W. A. Riddell, Superintendent of the Trade and Labor Branch of Ontario, representing the Minister of Public Works, recently announced that the Minister of Education had been authorized to build additions to the University of Toronto, and that the work would go ahead without delay.



DETAIL OF TYPICAL PANEL BETWEEN 2ND AND 3RD FLOORS.

R. A. I. C. Meeting, Montreal

THE general annual assembly of the Royal Architectural Institute of Canada in the Arts Club at Montreal on January 17, witnessed to a considerable extent the return of active association work following the disrupting period of the war. Perhaps at no previous time were so many prominent architects present at any one meeting, or more marked enthusiasm shown on any similar occasion. The fact that the gathering was held in conjunction with the annual convention of the Province of Quebec Association of Architects, contributed substantially to increase the attendance, and demonstrates the wisdom of the proposal to hold all future assemblies at a time when one of the provincial bodies is in session.

The meeting was also made the occasion of an interesting architectural exhibit which was held in the Arts Club rooms, consisting of photographs and pen and colored drawings, and including several fine etchings together with a loaned drawing of the Bank of Montreal, by Jules Guerin.

One of the most important issues raised during the assembly was in relation to the practice of discriminating against Canadian architects in reference to Canadian work. This matter was brought before the meeting by Mr. J. P. Hynes of Toronto, and formed the subject of considerable discussion. It was the opinion of the majority of delegates that some action should be taken, and after a general expression on the subject it was decided to leave the matter with the incoming Council to deal. The object will be to seek greater recognition from the Dominion Government, as well as provincial measures to conserve the opportunities for technical practice in Canada for those who are trained under the educational system of the various provinces, and similar to the protection which is given to the legal and medical professions. Mr. Hynes referred to the Illinois Act as a model on which effective legislation in this country could be based, stating that it provided for education and registration along very liberal lines and was of decided economic advantage to the state.

Another matter before the convention was in reference to fees which are charged by certain provincial associations against the individual members of firms who happen to come into their territory from other provinces to do work. There was considerable discussion on this point and it was decided to leave the matter with the Council to try and make some satisfactory inter-provincial arrangement between the different associations. It was suggested that perhaps the more reasonable way would be not to charge fees against each individual member, but to assess them the regular dues. The present arrangement as regards fees operated to the disadvantage of a partnership as against the individual, while the benefit is the same in both cases.

It was announced that since the last assembly the Architectural Institute of British Columbia had become duly affiliated with the parent body, and that an effort was being made to organize an association in the Maritime provinces with a view to consolidating the profession in Canada from coast to coast.

Very interesting and inspiring addresses and profitable talks and discussions characterized the proceedings throughout. Mr. Claude Bragdon of Rochester, N.Y., spoke at the afternoon session on "Architecture and the Future," while Thomas Adams, Town Planning Adviser to the Commission of Conservation, Ottawa, discussed "Post War Housing" at the evening meeting. Mr. Chas. H. Whittaker, Secretary of the Post War Committee of the American Institute of Architects, was also to have addressed the meeting on the latter subject but was unable to be present owing to illness.

At the conclusion of the morning session the delegates were entertained at luncheon at the St. James Club as guests of the Montreal members, where social discourse and repartee held sway for two delightfully convivial hours.

The list of exhibitors and the full report of the proceedings are as follows:

EXHIBITORS.

Montreal.—Brown & Vallance, 3: Hutchison, Wood & Miller, 2; John S. Archibald, 5; Phillip J. Turner, 1; D. H. MacFarlane, 1; L. A. Amos, 2; Ramsay Traquair, 1; George W. Wood, 1; Hugh G. Jones; Ross & Macdonald and H. G. Jones, 2; E. & W. S. Maxwell, 4; Septimus Warwick, 3; Herbert Raine, 3 etchings; Bank of Montreal, 1 picture by Jules Guerin, value $1,500, loaned by the bank; anonymous drawings, 4.

Toronto.—Burke, Horwood & White, 2 drawings; Wickson & Gregg, 4; Darling & Pearson, 6; Langley & Howland, 1; C. B. Cleveland, 1; George Gouinlock, 1; Chapman & McGiffin, 1; Sharp & Brown, 1; Charles S. Cobb, 2; Shepard & Calvin, 4; Toronto Civic Guild, 2.

PROCEEDINGS

MORNING SESSION.

The meeting was called to order at 10.30 a.m. by President Ouellett, the following members having signed the register as being in attendance:—

Joseph P. Ouellet, Quebec; L. Auger, Quebec; G. H. MacDonald, Edmonton; A. Frank Wickson, Toronto; J. P. Hynes, Toronto; C. H. Acton Bond, Toronto; A. Beaugrand Champagne, Montreal; G. A. Monnette, Montreal; J. Cecil McDougall, Montreal; Septimus Warwick, Montreal; Victor D. Horsburgh, Toronto; J. S. Archibald, Montreal; W. D. Baillairge, Quebec; Edgar Prairie, Montreal; W. P. Riley, Regina; L. L. Aird, Montreal; W. A. Gagnon, Montreal; R. H. McDonald, Montreal; Raoul Gariepy, Montreal; L. A. Content, Montreal; Oscar Beaule, Quebec; Joseph Venne, Montreal; Emile Venne, Montreal; Claude Bragden, Rochester; Thomas Adams, Ottawa; Emile Payette, Montreal; Francis S. Swales, Montreal; L. A. Amos, Montreal; W. S. Maxwell, Montreal; R. A. Frechet, Moncton, N.B.; C. E. Saxe, Montreal; Alcide Chausse, Montreal; Hugh Vallance, Montreal.

PRESIDENT OF P. Q. A. A. EXTENDS WELCOME.

At the opening of the Session, Mr. Monette, President of the Province of Quebec Association of Architects, addressed the assembly, stating it was both a privilege and a great honor to voice the welcome which the Province of Quebec Association of Architects, and the Arts Club, cordially extended to the members of the Royal Architectural Institute of Canada, on the occasion of the Eleventh General Annual Assembly.

The fact that this Annual Assembly of the Institute was

A. Frank Wickson

Newly Elected President of the Royal Architectural Institute of Canada.

combined with the Annual Convention of the Province of Quebec Association of Architects gave those in attendance an unusual opportunity of coming into personal contact and relations with their professional brethren, and consequently should widen their views and sympathies. He felt that a high tribute of admiration, gratitude and respect should be paid to the heroes of our profession who have made the supreme sacrifice in the terrible war just closed, which, thank God, has ended in the triumph of right against might. Canada had passed through very many sombre days in the last four years, and the profession was seriously affected. But now the clouds had disappeared, and a new sun was rising on the horizon. The point of view and the perspective were now entirely different, and this result had only very recently obtained through well directed and combined effort.

The war, Mr. Monette said, had proved a great lesson in every way. He urged the members to unite and work hand in hand for the welfare of our profession, and to have more enthusiasm for the Royal Architectural Institute of Canada and their provincial association. If this was done, he felt satisfied that the results would not only be astonishing, but would benefit the public in general.

PRESIDENT OUELLETT'S ADDRESS.

Gentlemen,—I deem it a great honor to preside over this Annual Meeting of the Institute—the Eleventh since its foundation—and which opens under singularly remarkable auspices—the end of the world war—which allows us to breathe in peace under the flag that protects us and which our fellow countrymen have covered with immortal glory during the four long years this bloody conflict lasted.

This meeting is also singularly remarkable by reason of the place in which it is held, the atmosphere of which is saturated with the artistic sense of beauty that speaks so highly of the great number of exhibitors whose work of real merit gives such an unusual flavor of art to our meeting. I offer my hearty thanks to the President of the Province of Quebec Architects Association, and to the Secretary of our Institute, for the success of this exhibition, and I also sincerely thank the Art Club for its hospitality.

During the two years I have had the honor of presiding over the meetings of the Council of the Institute it has been impossible, owing to unfavorable circumstances with which you are all familiar, to realize the progress we had aimed at. We had to grapple with the study rather than with the solution of those questions, and we had to leave to those who would follow us the task and honor of reaching a final settlement of the plan we had drafted and laid out during those years.

Since our last annual meeting, at Ottawa, we have had the advantage of affiliating with us the Institute of Architects of British Columbia, and of forming thereby a compact unity of all the Provincial Associations from the Pacific to the Maritime Provinces. The last mentioned provinces have not, as yet, been annexed to us, but the preliminary steps towards their affiliation with the Institute in the near future have been taken.

The Council has exerted itself during the last couple of years to draw the attention of the Federal Government to the rather awkward position in which Canadian architects are placed by the Federal Statutes with regard to our neighbors on the other side of the boundary line, through the facilities given to foreign architects to practice their profession here to our detriment. We have, jointly with the Civil Engineers, prepared a memorandum to be presented to the Government in order to draw the attention of the Central Authorities to the rather undesirable position in which we are placed, and which we resent all the more, as, owing to the difficult circumstances through which Canada has just passed, it has been proved that Canadians, in whatever sphere of action they may have been called upon to play a part, have proved themselves worthy of the highest praises, and have done great honor to our country.

The work of the Council which I have just mentioned also draws the attention of our Government to the importance of developing the incontestable and uncontested talents of our fellow-citizens for those arts, industries and resources that have been taken advantage of to their fullest extent in the munitions industry, for instance, as well as in others, where our people have shown themselves equal to and very often superior to strangers, although they had not had any preparatory training in those different branches.

Our universities and scientific schools have, for over a quarter of a century, developed men of great ability in different careers, but, unfortunately, our country has not benefited by the talents of those men as much as it should, owing to the lack of encouragement for our own and the too great enthusiasm of strangers who have known how to draw those young men away from us. Those young men in many instances have gone to our neighbors, and have given them the advantage of their talents, and have thereby allowed those strangers to benefit from services which the young men might have utilized for themselves here had they been sufficiently protected.

The Council has also studied the best means of having the Federal Government adopt the idea of appointing a Commission to establish a Canadian Institute of Arts and Sciences, as well as a national laboratory, to make an official classification of the building and other materials of our country.

The fact cannot be ignored any longer that to-day more than ever Canada needs a bureau of this kind, in this period of world rebuilding in which we have been placed by the war our people have done so much to end after playing such a large and important part of it to the lasting honor and credit of those who have so well understood our responsibilities, and of those who have so generously given their efforts and strength to the cause of justice and liberty.

Our Institute takes a legitimate pride in the fact that almost one-fifth of the total number of its members have served overseas in different capacities, and have given the best of their efforts and intelligence and of their strong arms to the defence of the sacred cause. They, indeed, have deserved more than an honorable mention from their confreres and their fellow-citizens in general. Some of them have laid down their lives as the price of their patriotism, and, before the graves of those heroes allow me to close in a prayer of respect and gratitude.

MINUTES OF PREVIOUS MEETING.

The President: The first order of business before us is the reading of the Minutes of the last General Annual Assembly, held at Ottawa, on October 1st and 2nd, 1917.

Mr. Chausse, Honorary Secretary, explained that the Minutes of the last meeting covered 74 pages of typewritten matter. The Minutes were published in extenso in "CONSTRUCTION" (Oct. issue, 1917), and it was the custom at the Institute meetings to take them as read, unless there be some special reason for reading them. He therefore moved that the Minutes of the last annual meeting be taken as read, which was duly seconded and the motion unanimously carried.

DELEGATES TO INCOMING COUNCIL.

The Secretary announced that the delegates to the incoming Council were as follows:

Alberta Association of Architects—G. H. MacDonald, R. P. Blackey and W. D. Cromarty.

Manitoba Association of Architects—J. H. G. Russell, H. E. Matthews, L. H. Jordan.

Ontario Association of Architects—C. H. Acton Bond, J. P. Hynes, C. P. Meredith, A. F. Wickson, and A. E. Nicholson.

Province of Quebec Association of Architects—D. R. Brown, Herbert Raine, Alcide Chausse, J. P. Ouellet, and Joseph Perrault.

Saskatchewan Association of Architects—R. G. Bunyard, A. G. Creighton, H. Cooper, and W. G. Van Egmond.

The Secretary explained that the last mentioned delegates found it impossible to attend, but Mr. W. R. Riley, of Regina, has been elected to represent them, and was present at the meeting.

Architectural Institute of British Columbia—S. M. Eveleigh and Kennerly Bryan.

APPOINTMENT OF AUDITOR.

The President: Our next order of business is the appointment of an auditor.

Mr. Hynes: Inasmuch as the officers will be appointed tomorrow, and the Treasurership may go to some other city than that in which it is at present, I think this matter should be left open, and that the auditor should be in the same city as the treasurer. If in order I would move that the matter of the appointment of an auditor be left in the hands of the incoming Council.

The motion was seconded by Mr. D. R. Brown, and carried unanimously.

SECRETARY'S REPORT.

On the announcement that there were no special communications from the Council, the Secretary's report was presented and read as follows:

Montreal, 15th January, 1919.

To the Council and Members of the Architectural Institute of Canada:

Gentlemen,—

I beg leave to submit my eleventh annual report as Honorary Secretary of the Royal Architectural Institute of Canada.

At the Tenth General Assembly of the Royal Institute, held at Ottawa, on the 1st and 2nd October, 1917, there being no quorum at the two meetings of the Council, the officers and members of the Council of 1916-1917, elected at the Assembly held at Quebec, in September, 1916, have retained their positions up to the time of this assembly in accordance with Section 17 of the By-laws (the members of the Council shall retain their position until their successors have been appointed).

According to Section 27 of the By-laws of the Royal Institute, the following matters were discussed and decided upon by correspondence:

(a) Mr. J. P. Hynes was elected Honorary Treasurer, to fill the position left vacant by the death of Mr. J. W. H. Watts.

(b) Messrs. Edmund Burke, E. L. Horwood and J. P. Hynes were elected as members of the Finance Committee.

(c) The "pro rata" rate was fixed at two dollars per member as the contribution of the Federated Associations.

(d) The Honorary Treasurer was authorized to pay the sum of $150.00 for the annual rent of the office of the Royal Institute in Montreal.

(e) The Honorary Treasurer was authorized to pay the sum of $200.00 for the services of an assistant to the Honorary Secretary.

(f) The Honorary Treasurer was authorized to pay the actual travelling expenses of the President, the Honorary Secretary and the Honorary Treasurer attending general meetings or meetings of the Council.

A meeting of the Council was held at Toronto, Ont., on the 5th October, 1918, at which were present Messrs. J. P. Ouellet, A. Frank Wickson, C. H. Acton Bond, A. E. Nicholson, David R. Brown, J. P. Hynes and Alcide Chausse.

Mr. A. E. Nicholson was elected a member of the Council, as a delegate of the Ontario Association of Architects to fill the vacancy left by the death of Mr. J. W. H. Watts.

The Architectural Institute of British Columbia, having conformed to the Charter and By-laws of the Royal Institute, was affiliated, and Messrs. S. N. Eveleigh and Kennerley Bryan were elected as members of the Council to represent the Architectural Institute of British Columbia.

It was decided to communicate with the leading architects in the Maritime Provinces suggesting the formation of an interprovincial association of architects for the Provinces of Nova Scotia, New Brunswick, and Prince Edward Island, and when such an association is formed, that it be federated with the Royal Institute, so that the membership of the Royal Architectural Institute of Canada will cover the Dominion from the Atlantic to the Pacific Oceans.

The Honorary Treasurer was authorized to make the necessary arrangements to bond the Honorary Treasurer by the Employers' Liability Company, of London, England, for $2,000, and to pay the required premium.

It was decided that the Honorary Treasurer be authorized to pay the actual travelling expenses of the members of the Council attending Council meetings, up to and not exceeding $25.

Through the joint efforts of the Architectural Institute of British Columbia, the Engineering Institute of Canada, and of the Royal Architectural Institute of Canada, the proposed bill to incorporate the "Engineering and Technical Institute of British Columbia" by the Legislature of that province, was not adopted.

It was decided to hold the General Annual Assembly of the Royal Institute at the same place and at the same time as the convention of the Province of Quebec Association of Architects, and to hold an Architectural Exhibition at the same time. If this proved successful the coming general assemblies of the Royal Institute would be held annually in conjunction with the annual convention of one of the Federated Provincial Associations. For this year's assembly several eminent American and Canadian architects have been invited to address the members on various subjects.

The Council has decided that in future all meetings of the Council, with the exception of those held at the General Annual Assemblies, will be held in the city of Ottawa, which is according to Clause 2 of the Charter of the Royal Architectural Institute of Canada.

The Council has protested against the Dominion Government's action in having started the erection of a Government office building on O'Connor Street, in the city of Ottawa, in direct opposition to the advice given them by the Federal Plan Commission.

The present General Assembly of the Royal Institute, while being held early in 1919, is the annual meeting which should have been held in the year 1918, and in order to hold our annual assemblies regularly, it is suggested that another general annual assembly be held during this year, preferably at the same time as the annual convention of one of the Provincial Associations of Architects.

Since August 1st, 1918, the Honorary Secretary is constantly in attendance at the office of the Royal Institute, No. 367 Beaver Hall Square, Montreal, where he will welcome the members. His office hours are from 9 o'clock a.m. to 4 o'clock p.m.

Respectfully submitted,
ALCIDE CHAUSSE,
Honorary Secretary.

On motion of Mr. Hynes, seconded by Mr. Monette, the Secretary's report, as above presented, was adopted.

TREASURER'S REPORT.

The President: We shall now have the Treasurer's report.

Mr. Hynes: The document I shall present is not the Treasurer's report, for reasons which will appear from the letter I shall read you from the auditors.

"Toronto, January 16th, 1919.

"Mr. J. P. Hynes, Treasurer Royal Architectural Institute of Canada, Toronto.

"Dear Sir,—The information you have furnished me has been put into statement form, and copy is attached hereto.

"I understand you do not wish to have the accounts written up and audited until the recommendation made by myself and previous auditors has been adopted and carried out, namely: that the sources of revenue available to the Institute be determined by the preparation of a list of members past and present, with a statement of any sums due by them to the Institute.

"Yours truly,
"JOHN I. SUTCLIFFE."

The statement to which the Auditor referred was as follows:

Royal Architectural Institute of Canada.

11th January, 1919.

	Audited statement of 31st August, 1917, shows balance in bank at that time		$ 935.40
	After the death of Mr. Watts, Mr. J. P. Hynes was appointed Honorary Treasurer 25th January, 1918, at which time no transactions with the bank appear to have taken place with the exception of the accrual of interest to the amount of		19.32
			$954.72
1918.	Receipts.		
May 24	Quebec Association of Architects, dues	$ 304.00	
" 31	Interest	3.93	
June 18	British Col. Association of Architects	34.00	
July 18	Ontario Association of Architects	268.00	
Oct. 30	Manitoba Association of Architects	68.00	
1919.			
Jan. 3	Saskatchewan Association of Architects	64.15	
" 9	Ontario Association of Architects	192.00	
" 1	Bank interest	16.68	
			950.76
			$1,905.48
1918.	Disbursements.		
Mar. 26	Desjardins & Bourguignon	$ 18.50	
" 26	Arthur A. Crawley Co.	5.00	
" 26	P. A. Gagnon	10.00	
" 26	J. H. Kenehan	75.00	
" 26	Alcide Chausse	60.01	
" 26	Quebec Association of Architects	150.00	
" 26	Victorine Morin	200.00	
Oct. 23	Desjardins & Bourguignon	3.75	
" 23	Alcide Chausse	44.55	
Nov. 1	Minister of Finance (bond)	200.00	
" 28	C.P.R. Telegraph	1.16	
" 26	C. W. I. Woodland	5.00	
Dec. 13	C. W. I. Woodland	5.00	
1919.			
Jan. 11	Discount and War Tax	.70	
			778.67
	Balance as per pass book		1,126.81
	Victory Bonds deposited with bank		200.00
			$1,326.81

Mr. Hynes: This does not take into account the overdue amounts from various members, which form a considerable total, but for the reasons given by the Auditor the books in their present state do not show the sources of the assets, and it will be necessary to have them arranged.

On Mr. Hynes' motion the report was tabled, but not accepted.

TRIBUTE TO THE LATE EDMUND BURKE.

Mr. Acton Bond: I would like to place before you the following resolution adopted by the Toronto Chapter of the Ontario Association of Architects, with reference to the death of Mr. Edmund Burke, with a view to this Institute taking action along similar lines:

"Toronto, January 15th, 1919.

"The Toronto Chapter of the Ontario Association of Architects desires to record its high appreciation of the character, work and services of the late Edmund Burke, architect.

"For about fifty years Mr. Burke has been identified with the architectural profession in Toronto. Some of our members have known him during the greater part of this long period. Others have only had this privilege during the later period of his life. But all heartily unite in this testimony to his high professional standing, character and service, and desire to place on record our deep sense of the loss suffered by the profession owing to his translation to another sphere.

"Commencing his architectural career as a student in the office of Gundry & Langley, he soon proved his ability and worth. He was chief draughtsman in that office when such important works were being carried out by the firm as the completion of St. James' Cathedral, the spire of St. Michael's Cathedral and the erection of the Metropolitan Church.

"Later on Mr. Burke entered a partnership with his uncle, Mr. Langley, under the style of Langley & Burke.

"For a great number of years this firm was prominent in architectural matters in Toronto and throughout Ontario. Besides great numbers of houses and commercial buildings, this firm designed a goodly number of church edifices. Naturally, Mr. Burke had a very large share in the designing and construction of those buildings, many of which still stand as monuments to his architectural ability. Later on in his career Mr. Burke formed a partnership with Mr. J. C. B. Horwood, and still later enlarged the firm by the inclusion of Mr. Murray White. This firm, under the leadership of Mr. Burke, has occupied one of the foremost places in the profession in Canada, and has designed some of the most important buildings in the country. Particularly has it been prominent in the designing of churches. In all his professional work Mr. Burke has brought to the service of his clients a wide knowledge of his profession, sound business judgment, high moral rectitude and painstaking care. No wonder his career has been a professional success.

"Busy man as he always was, Mr. Burke made time to help in an effective way the organization of the profession in Ontario, and later on in all Canada. He was one of the originators of the Toronto Architectural Guild, the forerunner of the Ontario Association of Architects. In those early days he did much to cement together the members of the profession and inculcate high ethical ideals in its practice. He took a leading part in the organization of the Ontario Association of Architects. He was President of it for four years, viz., 1894, 1905, 1906 and 1907. Much of the success of this organization has been due to the amount of interest and activity he gave to it, and his conciliatory way of reconciling the best in seemingly divergent ideas. He was for many years one of the examiners of the Association. In the Toronto Chapter of the Ontario Association of Architects Mr. Burke took an active and leading part. He attended nearly all its meetings, and gave much time to its committee work. He could always be relied upon, and his counsel and advice have been a great strength. Besides these strictly professional activities, Mr. Burke gave much time and effort to such affiliated associations as the Engineers' Club, the Guild of Civic Art and other public associations in the interests of art, science and philanthropy. Our friend, Mr. Burke, was a most public-spirited citizen, imbued with the real altruistic spirit. While always the champion of that which was true and lovely and of good report, his kindliness of heart and graciousness of manner made him a universal favorite. We remember him as a Christian gentleman. We are glad to have known him, happy to have been associated with him, and proud of his memory."

The Secretary: Perhaps I might be permitted to add a word to this. When this Institute was formed, eleven years ago, Mr. Burke gave us very great and very valuable help. He spent time and money to bring the organization to a definite form, and it was through his efforts and through the efforts of another gentleman who has left us, Mr. Watts, that we are here to-day.

I would respectfully move that the resolution just read from the Toronto Chapter of the Ontario Association of Architects be incorporated in our Minutes, and that a similar resolution be adopted by this Institute.

This motion was seconded and carried.

GENERAL BUSINESS.

The President: Is there anything to be dealt with under the heading of "General Business"?

Mr. Wickson: There is a subject which I would like to bring up, but I am not sure whether it should be dealt with by the Institute as a whole or whether it is a matter for the Council.

I have a letter from Burke, Horwood & White, Toronto, to the effect that they are doing some work in Alberta and in the Province of Quebec, and the membership fees of each are charged against each member of the firm, which is a little burdensome, and which creates a hardship for architects in the Province of Ontario who execute work in another province and who are compelled to pay fees to the local Association.

They state there is only one fee to the Federal Association, but that they have to pay fees to the local Associations in each province. As an instance of the cost of doing business in the Province of Quebec, they state that this year they have had to pay $25.00 for each member as a registration fee, and $15.00 annually, thus making a total cost of $120.00 for the year. They say it is necessary to pay this, although the amount of returns from the work they may do in the province is comparatively small.

They add that it would be a very desirable and useful thing if some working arrangement could be made between the associations.

Now, as I say, the question in my mind is whether this is a matter which should come before a General Meeting of the Institute, or whether it is one which should be dealt with by the Council.

The President: By the Council, I should say.

Mr. Hynes: I would move that it be discussed now. This is a matter of some interest, and inasmuch as we have really an inter-provincial conference here to-day, I feel that this is the proper time to discuss the question. We all know the tendency to have the practice confined to the provinces and states in which architects are located, and when they practice outside that territory they have to comply with whatever is exacted of them by the territory to which they go.

If a man has the privilege of practicing outside his own territory, I think it is a very small burden upon him that he should be called upon to contribute to the support of the architectural organization in that territory, and I would be very sorry, indeed, to see this meeting try to take from those various provincial associations the fees which they should get, particularly from a man who comes from outside. I think he should pay those fees, and pay them cheerfully.

The sum of $120.00 was mentioned as being the fee exacted for the privilege of practicing in the Province of Quebec, in a certain case, but we must remember that the work done may have consisted of the putting up of a building which brought a very large return to the architect, and $120.00 would be a very insignificant sum in comparison with it. I think the matter is of sufficient importance to justify us in discussing it.

Mr. Macdonald: I do not see how anything could be done without the consent of the various provincial associations.

Mr. Maxwell: As I see it, the assessment was positively ridiculous and unfair. I know the local associations are supported by the membership they have. At the same time, it may be that an architect in one province is called upon by a client to put up a house in another province. This house may cost, say, $15,000.00 to build. Is it fair that he should have to pay $120.00 to the local association for the privilege of being allowed to build that house?

I should think the more reasonable way would be not to charge each member of the firm those fees, but to charge them the regular dues.

Mr. Horsburgh: A matter of personal experience may be of interest. I have been working in practically all the provinces in recent years, and have paid all the fees. Of course, there have been formalities to observe in the way of registration, and so on, in each of the different provinces, but I do not remember being called upon to pay any considerable amount except in Manitoba. They seem to be very active in collecting.

Mr. Brown: The charters of the associations are granted by the Provincial Governments, and I do not see how we can dictate to those Governments as to what they should or should not do. If the charters provide that architects coming in to practice from outside the province must pay the registration fee and the annual dues, why, it must be done. Personally, I think it is a very small thing, so far as the amount goes.

Before the war we were doing work in all the provinces, with the exception of Ontario, and we paid the registration fees and our annual dues. This applies to both members of the firm, Mr. Vallance as well as to myself.

The President: Is it the sentiment of the meeting that Mr. Hynes' motion should be adopted?

Mr. Hynes: I did not make any motion, Mr. President. I simply suggested that it might be a good idea to have the question discussed.

The President: Has anyone else anything to say in regard to it? It is an interesting subject, and is worthy of discussion.

Mr. Acton Bond: Would it be a good idea to have the Secretary write to each provincial association, asking them if they would consider the proposition of charging only the annual dues? We might do this with the object of getting the views of the different associations.

The President: Of course, the difficulty is that the law in each province provides as to how the thing shall be done, and it has been done in that way up to the present. I do not see that we can do very much in the matter unless the provincial associations are willing to have their charters changed.

Mr. Acton Bond: My suggestion would embody the idea of asking them to do that, so as to have uniformity all over the country. It seems to me it would be a very desirable thing to have a uniform practice throughout the country, and I say this without in any way committing myself as to what that uniform practice should be.

The President: Is it a matter that is covered by the by-laws, or is it covered by the charter?

Mr. Wickson: It is a charter matter. I would suggest that the question be left for the incoming Council to deal with. They have heard the discussion, and I think the matter has been fairly put before them.

PLACE OF NEXT ANNUAL MEETING.

The President: The next order of business is the selection of the place of the next General Annual Assembly.

The suggestion was made last year that this year's annual meeting should be held at the same time as the annual meeting of the Province of Quebec Association of Architects. It was furthermore suggested that in the future we should endeavor to have the annual meeting of the Institute held at the same time as the annual meeting of some of the provincial associations. I think this is a good idea, and it seems to have borne good results. Of course, it is for you to decide whether we should continue along those lines.

Our main object is that we may be sure of getting a quorum to hold the meeting. When we met in Ottawa last year we could not secure a sufficient number to form a quorum, notwithstanding our best efforts.

The Secretary: Personally, I am in favor of having our meetings at the same time as the meetings of one or other of the provincial associations. The success of the idea is apparent to my mind in our present meeting. Last year, notwithstanding our best efforts, we were only able to secure thirteen members for our meeting in Ottawa. The year before that, when we met in Quebec, Mr. Ouellet had to hunt up all the architects he knew in order to enable us to form a quorum of fifteen. With very few exceptions, we have had difficulty in getting the necessary number to form a quorum.

If the Ontario Association is holding an annual meeting this year, we might meet with them. Or, if we succeed in helping the Maritime Provinces in forming an association, we might go down there and meet with them at the end of the present year. We might go to Halifax, or to St. Johns, or to Prince Edward Island. There are only a few architects in that district—not a sufficient number to form an association in each province—and the suggestion is that they should form an inter-provincial association. Until the matter takes some definite form, it might be left to the Council. It was suggested that we should go to Ottawa again, but I do not know that I would be in favor of the idea, particularly in view of the lack of success we had in forming a quorum there last year.

Mr. Maxwell: Do you think you would get a quorum in Prince Edward Island, or Nova Scotia, or New Brunswick? Of course, I am prepared to admit that it would make a very nice trip, but, from a practical point of view, do you think you could hold a meeting?

Why do we not consider the advisability of having an exhibition of some importance and on a large scale which would attract the membership? We might possibly have an exhibition of town-planning, referring more particularly to industrial town-planning. I am sure a splendid exhibit could be organized, which would be of a great deal of interest to the architects and to the public in general.

Mr. Acton Bond: I move that the matter be left in the hands of the Council to deal with, in the light of the suggestions which have just been made.

Mr. Brown: Do I understand that the idea is to have another meeting this year?

The President: The 1919 meeting.

Mr. Wickson: This is the 1918 meeting.

The President: It is moved by Mr. Acton Bond, seconded by Mr. Baugrand Champagne, that the matter of the time and place of the next General Meeting of the Institute be left in the hands of the Council. (Carried.)

The President: This completes the order of our business, according to the programme for the morning session, unless there is something else to come before the chair.

There are many subjects of interest to us which might very well be discussed now, and if any gentleman present has anything he wishes to bring forward I shall be glad, indeed, to listen to him.

CANADIAN PRACTICE AND OUTSIDE COMPETITION.

Mr. Hynes: I have a matter in mind which I would like to bring before the Institute, with the idea that it might perhaps be discussed.

As far back as January, 1917, there was a movement made in Toronto that some representation should be made to the Government to the effect that it should not patronize outsiders and discriminate against the engineers, architects and contractors of our own country. This was particularly with regard to war work.

Considerable thought and time was given to the subject in Toronto, and it occurred to me that it might be well if the question was summed up here and some action be taken by the Institute, from the point of view that we are a Dominion organization and that our relations are with the Dominion Government.

Mr. Acton Bond came in contact with the Chairman of the Toronto Branch of the Manufacturers' Association, and a meeting was convened which the builders, the engineers and the architects were asked to attend. Two committees were struck after some discussion, one to get data as to where and when the Government and other large concerns had passed over Canadian resident architects, engineers and builders and employed outsiders. The other committee was appointed to see what policy could be formed and put up to the Government that it should adopt and make, if not law, at least an accepted practice by the Government, and probably by large corporations under the Government's control.

Eventually a memorial was prepared and circulated. It was not presented to the Government, however, because the General Executive of the Manufacturers' Association did not quite see the matter in the same light as the Toronto Branch of the Association saw it, and hesitated to ask the Government for an appointment to present this petition.

While the matter was still pending, the Government resigned, and the present Government took office. It was then felt that this petition did not fit the case for presentation to this Government, and the committees were practically dissolved.

The builders held their own assembly, and presented their own petition to the Government at Ottawa a month or two ago, but, so far as the architects are concerned, the question has been left in abeyance.

I think this is a body which should discuss and consider the matter, and I think it is also probably the proper thing that we should have the engineers join us in any movement to be made, because they are absolutely on the same footing as we are before the Government.

If we are complaining of the situation, it is up to us to suggest the remedy, and I would like to have the matter discussed before this meeting from the different points of view from which it may be seen.

Mr. Wickson: My impression is that we ought to meet the Government in connection with this question, and that the memorial to which Mr. Hynes referred, and of which he was the originator, would probably serve to form the basis upon which we could bring the matter before the Government. It may have to be modified in some respects, or some new ideas may have to be added to it, but, in the main, I think it covers very fully and completely the point of view which we should present to the Government.

I feel that it would be very desirable to have the members present at this meeting express their opinions in regard to it. I am satisfied that the incoming Council would be very pleased to have any suggestion that could be made as to the lines along which they might act.

Mr. Hynes: I must apologize for rising so often, but this particular thing seems to me to be one of the real objects of this Convention. Mr. Wickson, Mr. Shepherd and I have gone over the ground and had a good deal to do with the preparation of the memorial of which I spoke. It might be worth while that I should read it to you so that the ideas contained in it should be before the meeting, and something may come from it. It is roughly drawn up in the form of a petition, and may not be absolutely consistent in all respects, but, at the same time, I think you will grasp the ideas as they are developed.

It was thought after the committees that worked on the original memorial were dissolved that each party (Manufacturers, Builders, Architects and Engineers) would prepare their own memorials and present them at the same time. This the Builders did, but the Architects, not having held their convention at that time, had not adopted a memorial when the Builders presented theirs.

The memorial reads as follows:

"July 9th, 1918.

> "In support of the memorial presented by the builders, the R.A.I.C. wishes to state that the grievance complained of is due to the unfortunate belief on the part of a large portion of the business community of Canada that the ability of Canadians is inferior to that of our neighbors; even more unfortunately, there has been too much evidence that this opinion has also been held by several Governments in Canada.
>
> "The Institute submits that this opinion, however honestly held, has been amply refuted by the part Canadians have taken in the situation created in Canada by the war. Canadian ability and energy overcame every obstacle, even the Government's distrust of their ability, and created an army and produced munitions in quality, quantity and speed unsurpassed in the world, and that, too, notwithstanding that it was an activity in which they had had no previous experience.
>
> "Many of our citizens are serving in every war activity with a distinction that might well be the envy of older and larger countries, and there is absolutely nothing to suggest that the brain power of this country is in any way inferior to that of any other country in the world.
>
> "The importation of outsiders on the plea of their being experienced, if carried to its logical conclusion, would mean that, except in the case of re-election, no native would be elected to Parliament, but experienced legislators would have to be imported from abroad; no new native blood would be introduced into the Cabinets of our country because of inexperience, thus compelling the importation of Ministers from other countries; in fact, we might even have to seek in distant fields for our Premiers. This, our Government must admit, would be

intolerable. An analogous condition exists to a certain extent in the building operations of the country, and we bring it to your attention that it may be remedied.

"We contend that Canadians have demonstrated during the war that they are equal to any task, and required only the opportunity to prove it. For this reason, if for no other, they are entitled to all the opportunities that arise in their own country.

"The grievance of the builders is also ours. For more than twenty years serious work has been done, and has resulted in making the architectural profession one worthy of the country's recognition. Provincial associations were formed from time to time to promote the cause of education, and finally, some ten years ago, a Dominion association was organized, received its charter from the Dominion Parliament, and two years later had the title 'Royal' conferred upon it—that is the Royal Architectural Institute of Canada, which we represent here to-day. Universities in Quebec, Ontario and Alberta have been conducting architectural courses. These efforts, however, have received scant recognition, either by your Government or the public at large, and it is felt that until the Federal Government gives a national status to the profession it will always be handicapped in its efforts to render service to the community and to itself.

"In bringing to your attention the difficulties under which native architects practice in Canada, we wish it to be clearly understood that it is not only architecture that is thus affected, but all the technical professions, the practice of which is not conserved by the provinces for those trained for these professions by the provincial educational institutions, and that while the practice of these professions is a civil right, and, therefore, subject to regulation by the province in the province, it is also wider, in that the Dominion Government has a need of the developed manhood resources of the Dominion, and, therefore, a responsibility in connection with this development.

"It is the Dominion Government that prosecutes war for this country, and highly developed men in the technical professions of which we speak are the first requisites for efficiency in war. The responsibility of the Dominion Government is no less in times of peace than in times of war, for it is in times of peace that the country must be kept efficient to meet any war emergency; and, further, no Government can in times of peace afford to be indifferent to the economic value to the country of a highly developed, technically trained manhood.

"In considering what the Government of the Dominion has already enacted affecting the practice of architecture in Canada, we note that there is a Customs tariff which imposes a duty on plans imported into this country of 22½ per cent. (plus a war tax of 6½ per cent.) on one per cent. of the cost of a building. However satisfactory this measure may be for the purpose of raising revenue, it is practically useless as a protective measure to the architectural practice of the country. It is easily avoided, and frequently evaded, and is extremely inadequate, amounting, as it does, to less than three hundred dollars on every hundred thousand dollars cost of building.

"The Alien Labor law is another Dominion enactment which might be thought to ameliorate our grievance, but on examination it is found that it is not enforced in regard to the professions, and though it is a reciprocal measure, it works to the disadvantage of this country. The United States permits an alien architect or engineer properly accredited to practice personally in that country, but absolutely refuses to allow him to transfer his organization to that country. In Canada, on the contrary, temporary offices are established by outside practitioners, and the principals do not personally conduct their operations—in many cases rarely even visiting the country.

"That a Government should develop its manhood resources is a vital principle for which we ask recognition. It is more crucial than even the development and conservation of any material resource.

"In this connection we may point out that your Government maintains a number of departments, presided over by Cabinet Ministers, which are devoted entirely to material development, and, in addition, has a Commission of Conservation, which, with the exception of its departments of Public Health and Town Planning, is also entirely devoted to the material development of the country.

"In acting on this principle, it is manifest that the point at which the provincial institutions graduate their men is the one from which the Federal Government should carry on, and not only facilitate the further development of those graduates, but by all possible means retain their manhood and brain power for the service of our country. At present many who obtain their technical training in this country leave to practice in other fields, as the greater part of the most desirable practice here is not given to the resident practitioner, but to outsiders; this entails the economic loss to the country of the trained citizen, for whose education it has largely paid, and also the benefits arising from the experience which new opportunities give to the practitioner. From an entirely different point of view, but at this time almost vital, your Government would be justified in prohibiting Canadians employing outsiders on the ground of helping to maintain a favorable balance of trade for Canada.

"Canada has taken the part of a nation in this war, and it is the duty of her Government to see that she takes no less a part in the civil activities of the world. Situated as Canada is, with a wealthy and aggressive nation of vastly greater population on her whole southern border, it needs the strongest influence of her Government to prevent her industrial activities and her technically trained men from being overshadowed by those of her neighbors, not only in the eyes of the world, but even in the eyes of her own citizens. This fact is illustrated by this delegation to-day calling to your attention the disadvantages they are laboring under in their own country. For this reason, and in the face of the keen competition which will be felt amongst all nations in post-war times, we submit that the time has now arrived when it is the inherited duty of the Government of Canada to develop a Canadian national spirit, and to this end to:

> "First, give a national recognition, status and patronage to all activities developing the manhood and brain power of Canada; and,
>
> "Second, establish national standards for all products of Canada of such a high degree as to command the recognition and respect of the world."

Mr. Hynes paused here in reading to refer to the report of the Conservation Commission on Fire Waste, in which it is pointed out that all the standards for Canada are set by American laboratories. He explained that there were no testing bureaus in Canada, and nothing to set standards that are practical. Even the English materials are only accepted by the insurance corporations of Canada when they pass the American laboratory tests.

In reference to "national recognition of Canadian manhood" and "national standardization of products," the wording of the petition continued as follows:

> "The first may be accomplished by establishing a Canadian National Institute of Art and Science, to which would be drawn the recognized ability of the entire Dominion in all the arts and sciences, and which would give the practitioners of them a national status and recognition. Such an institute would also serve the Government with advisory boards, the value of which has been demonstrated by the use the various Governments have made of such boards during the war.
>
> "The country has to acknowledge the immensely valuable service that the medical profession has rendered by preventive measures applied through the departments of public health, and it is absolutely certain that it will have to acknowledge an equal debt to the architects and engineers when it gives them proper legal facilities to control town planning and housing. These would open the way for the rendering of an untold economic, physical, mental and moral service to the community during the reconstruction work upon which Canada is now entering. While activities under this department may for the most part be matters for action on the part of the provincial governments, the Dominion Government should certainly lead the way by insisting that the art and science of town planning and housing shall be exercised in all developments under its charge, or under the charge of corporations acting under Governmental authority, such as railroads, for instance, which would be under control in regard to the location, plans and development of all town sites on railroad developments throughout the country. All corporations acting under Dominion charters should also be required to patronize native technical talent and live up to a modern standard of town planning and housing.
>
> "The Dominion Government should make the national capital an example of what the art and science of town planning can do for cities, thus giving the art and science a national recognition and setting a standard for other cities in Canada. In stating this it is not forgotten that a town planning scheme has already been prepared for the capital, but, on the other hand, neither is it forgotten that the scheme has not been made operative; cities being active organisms, are in course of constant change and require fair and constant application of the art and science of town planning to economically attain a satisfactory development.
>
> "There are four Royal Societies in Canada pertaining to art and science:
>
> "The Royal Academy of Art,
> "The Royal Architectural Institute of Canada,
> "The Royal Society of Canada,
> "The Royal Canadian Institute.
>
> "The lack of recognition that the Dominion Government gives them is exemplified in the appointment of the Government Art Purchasing Committee, to which not a single member of the Royal Academy is appointed; and in the case of the Royal Institute of Canada and the Royal Architectural Institute of Canada; to neither of these is recognition given of any kind, financial or otherwise.
>
> "The apathy and indifference on the part of the Government to the activities in Canada, which we have brought to your attention to-day, we feel assured is only apparent, and in view of the national importance of developing the manhood of the country and of maintaining a high standard for its products, we petition your Government:
>
> "First, to appoint a Commission to establish a Canadian Institute of Art and Science; and,
>
> "Second, to appoint a Commission to establish a Canadian National Department of Standards."

The President: Have you anything to say on this interesting subject, Mr. Venne?

Mr. Venne: I do not know that I can add very much to the able summary we have just heard. The principle is very clear, and the petition very well expresses a desire which has been long in our hearts. The Government should recognize our artistic organizations, and should recognize the ability of our Canadian architects.

While Mr. Hynes was reading his paper it brought to my mind a law that was passed by Constantine in the so-called barbaric ages when Art was nearly extinct. Architects were so few and so far between that the Emperor had to pass a law which provided that parents who would send their sons to study architecture were to be favored in certain ways, especially in the way of exemption from service in the armies, and this protection was extended for a long time.

In this country what we want is the recognition of the Canadian architect when public works or works for large corporations are undertaken. We feel that Canadian work should be given to Canadian architects. I am inclined to go further than Mr. Hynes, and to say that, even if the Canadian architect was a little less efficient than the stranger, still he should get the work. If the big work goes to foreign architects, how will the Canadian profession progress? We only want an opportunity to produce good and artistic work in this country, and I think a petition somewhat on the lines of the one just read should be presented to the Federal Government, and perhaps also to the provincial legislatures.

Mr. Riley: I think we owe a great debt of gratitude to Mr

Hynes and his fellow-workers for the preparation of the memorial he has just placed before us.

It seems to me that the lack of recognition on the part of the Dominion Government may possibly be due to lack of knowledge of the various members of the Dominion Government. If we were to take the entire Government as a body, I think we would find only a very small percentage of its members who know that there is such an institution as the Royal Institute of Architects, and I believe this is really a matter which should be laid before them. Having taken it up, we should keep at it. Do not drop it after presenting the petition. It is something that must be followed up. If you want to get anything, it is not sufficient simply to ask for it; you must keep on asking until you get it.

I am satisfied that if we follow up the recommendations set forth in the memorial we have just heard we will arrive at the final goal we are endeavoring to reach. I do not know that I need say anything more, except that I believe this to be a move in the right direction, and that it is time Canadian architects should be recognized according to the ability which they have shown themselves as capable of putting forth.

The President: What do you think of the subject, Mr. Maxwell?

Mr. Maxwell: The idea, to my mind, is an excellent one. It requires considerable digesting, of course, but I feel that it should be urged forward with all the energy possible. It seems to me that there has been a little more recognition of Canadian architects within the last two years than was formerly the case. Of course, nine-tenths of the population does not know that the R.A.I.C. exists. I happen to know of its existence myself once a year, because I get a notice.

Mr. Acton Bond: I am very much in favor of the movement. I think we should carefully consider the material which has just been placed before us by Mr. Hynes, and should urge the subject forward as soon as possible.

My idea is that a committee should be appointed to take the matter up, and present it as carefully as possible, and as soon as we can.

Mr. Macdonald: It seems to me that when a measure is introduced before the House it does not depend altogether on the presentation of the case as to whether it shall or shall not be accepted. I think the representatives in the House from the different provinces should be fully educated and informed regarding conditions as they exist, so that before they come to deal with the matter in the House they are aware of its nature, and you have a measure of support which can be depended upon and which will make it an active issue when the question comes up.

I offer the suggestion that the representatives from the different provinces should be fully informed in advance, so that they may know the nature of our complaint and the remedy we seek.

Mr. Amos: Is it the intention to try to have a law passed which will prohibit the employment of other than Canadian architects? If that be the case, I do not think we shall succeed. I think we should ask the Government to encourage the Canadian architects exclusively. In their specifications they absolutely forbid any American or imported material being used when Canadian products of equal quality can be obtained. Of course, the case is different in regard to a profession. There might be some instance where a European, or a specialist of some other nation, could be with advantage called into consultation. If there were a law passed preventing this it might prove awkward in certain cases where only a Canadian would have to pass on a point.

I would strongly suggest that the Ministry be interviewed, and the desirability of giving Canadians a fair deal—more fair than they have been getting in the past—should be pointed out to them.

I would suggest, also, that if the Canadians were not entirely trusted in the past through want of experience and want of knowledge, that the Government should subsidize the various schools of architecture, in the way of special prizes, for instance. In Paris the Government gives special prizes, which is really a subsidizing of the candidates. Why should we not have that in this country, and give our students a greater incentive to develop the profession.

Mr. Hynes: I would be very sorry to think that we were asking for a Chinese wall, or anything of that kind. As a matter of fact, we are only asking for proper recognition.

It has been stated that we should inform the members of Parliament and the members of the provincial legislatures as to the nature of our complaint and the remedy we seek. For two years I have tried to deal with this question as seriously as I could, and I must say I found very few architects who take much interest in it. I think that is one reason why there is no interest shown in it before the legislatures.

I have found very few architects who can agree as to what they consider should be the platform to present before the provincial governments, or upon which this Association should stand before the Federal Government. Until we find some ground upon which we are unanimous, we cannot expect to get the hearing we should get.

I think the situation is very clear as far as the practice of architecture is concerned. It is a matter that must be dealt with by the provinces. They have authority over manhood and property rights, and the practice of architecture comes under the former law.

The difference between our profession and the professions of law, medicine, etc., is that the men in those other professions when given their degrees, have the work in the province conserved for them. In our profession, the provinces provide the technical education, but does not conserve the practice for the men they train.

If it is good policy to conserve the practice for one branch of technically educated men, why is it not equally good practice to conserve it for other technically educated men?

In Ontario, and I have no doubt in the other provinces, we point with considerable pride to the standard of practice in medicine, law, dentistry, veterinary surgery, chemistry, etc. We are ready to meet the world in these things, and the practices in the provinces are conserved for the men who are educated there for these professions. The greater number of men who take the courses remain in the country and practice their profession.

In the University of Toronto the largest single faculty is that of engineering. Up to twelve or fifteen years ago 50 per cent. of the students of that faculty left Canada, and to-day, I believe, 50 per cent. of them leave the province. It costs the Province of Ontario two-thirds of the expense of educating a student; in other words, the fees of Toronto University are just about one-third of what it costs to keep the University running, and the province fails in economy in spending money to educate people who do not remain in it and practice their professions after they are educated.

The president of the college told me on one occasion that two of his most prominent students had gone to Pennsylvania, and one had gone to New York. The Ontario Department of Education is not in existence to educate men for New York or Pennsylvania. Its object is to educate men for Ontario.

It is necessary economically that the work should be conserved for the men who are trained in the province, and it is economically right as well; yet we are losing the very best men we train because the field is larger elsewhere and the best things that are in our own field are not given to the local practitioner.

My idea is that our educational departments should follow the example of the State of Illinois, where they have established a Department of Education and Registration. They train the men, and register them, and the practice in the state is conserved for them under certain very liberal conditions. I think this is the nearest to an ideal working scheme that has yet been put forward, and it might well be looked into by the Canadian provinces with a view to adoption.

When it comes to a question of dealing with our Dominion Government, the case is somewhat different, because the Dominion Government is not in a position to pass legislation controlling our practice. It is not within the sphere of the Dominion Government, but it is in a position to give us recognition and to see that other large corporations recognize the local practitioner.

Mr. Monette: We have heard many suggestions on this subject, and I have one to make which may meet with your approval. We are not represented in the Government at the present time. Why should we not be represented? I think the best thing we could do would be to elect some of our members to represent us. If we did this, our interests would be protected.

As it is, the Government is made up of too many lawyers, too many doctors, and too many of other professions, and the architects are not represented.

The President: I am sure we have all listened with a great deal of interest to what has been said on this important question. We all seem to endorse the principle set out in the memorial just presented to us, but we have not gone any further. For my own part, I think something should be done at this meeting. Perhaps a Committee might be formed to study the subject and draw up a memorial along the lines of the views set forth here this morning.

We have been working on this matter for a number of years. Unfortunately, the time was not favorable for us to lay a proposition before the Government, but I think the time is now ripe, and the sooner something is done the better it will be.

It might be well for somebody to suggest that a Committee be appointed to take some definite action.

Mr. Maxwell: The Council which will be elected will hold office for a couple of years probably, and would, I think, be in the best position to decide as to what should be done.

The President: Would you make a motion along the lines that the Council should take the matter up?

Mr. Maxwell: Unfortunately, I am not sufficiently in touch with what has taken place so far to make any suggestion of a definite nature.

Mr. Brown: I think the meeting should say whether it wishes a committee appointed outside the Council, or whether it would be better to leave the matter in the hands of the Council

Mr. Beaugrand Champagne: I would move that the matter be left in the hands of the Council, for immediate action.

The motion was seconded by Mr. Hynes, and unanimously carried.

Mr. Riley: Is it the intention to deal with the Federal Government, or to deal with each of the provincial governments?

Mr. Hynes: Each provincial association will have to deal with its own provincial government, and this Institute will deal with the Federal Government.

The provincial societies should keep in touch with each other and have an interchange of thought, and whatever action is taken should be uniform. Of course, it would have to be through the respective societies to their respective governments.

Mr. Wickson: If any delegation were appointed to approach the Government, I think it would be most desirable to have representatives from all the provinces in attendance. The members of the Government are influenced to a great extent by the fact of the thing being representative of the country, and not a local matter.

I also think that the deputation should be as large as possible, and that those who are anywhere within reach should form part of it, and the distant parts of the country should be represented by at least one or two members.

The President: I think it is a very good idea that every one who can possibly do so should be present to show that we are all interested in the matter.

In answer to Mr. Hynes' statement that there is not much discussion on the subject, I would say that this may be due to the fact that we all think as he does.

Mr. Hynes: I think it is due to the fact that there is no unanimity. I think we should all read Sydney Webb's paper before the Royal Institute of British Architects, to get some idea of what part the architect plays in the community. With that as a starting point we may get to something definite.

The unfortunate thing is that we seem to want the Government to do something for us, without having made up our minds definitely as to what we want. I have an idea that the duty of every citizen is to render service, and if the Government will give us the proper legal facilities we can be of service to the Government. If the provinces will give us proper facilities, we can do untold work in town planning for the community. If the Dominion Government will give us a proper status we can get a real type and air of Canadian atmosphere for our buildings and our structures, and there will not be an imported art dumped in on us—it will be something of our own.

Mr. Venne: I notice that a good deal of importance seems to be attached to the fact that the governments should do something for the profession. As a matter of fact, something has been done by the Province of Quebec, for instance.

There is another point which has not been dealt with, and that is in regard to our large public corporations. Our banks, which draw their revenues from the country, and our railway companies, which draw their revenues from the country, employ foreign architects. They are the people who should be approached.

If there is anything that can be done by the Government to control these companies and lead them to recognize the profession in the country, it would be an important step, to my mind.

I do not remember, except in one case in Toronto about thirty years ago, that the Government employed foreign architects. Our main difficulty at the present time is that large corporations employ American architects, when they might get the same service—and perhaps even better service—by employing Canadian architects. I believe this is a point which should be studied by the Committee.

The meeting then adjourned to the St. James Club, where the delegates were entertained at luncheon as guests of the Montreal members, whose hospitality during the entire assembly made the visitors' stay in Montreal a most delightful one.

AFTERNOON SESSION.

The afternoon session was called to order at 2.30 p.m., when President Ouelett introduced Mr. Claude Bragdon, a prominent architect of Rochester, N.Y., who had kindly responded to the Council's invitation to address the Institute on the subject of "Architecture of the Future." Mr. Bragdon's professional reputation, the President explained, had already preceded him to Canada, and he felt that the members would derive much pleasure and benefit from what he would have to say to them on this occasion.

Mr. Bragdon's address in full was as follows:

Architecture and the Future

Address Delivered by Claude Bragdon Before the R.A.I.C.

EMERSON somewhere says that we should suffer no fiction to exist for us. How many fictions sacredly cherished as truths the war has already snuffed out. An earthquake is the only adequate symbol which expresses the effect of this war on consciousness, and it may not be an unprofitable exercise this afternoon to discuss and try to discover some of the fictions in which our particular profession is more or less enmeshed.

Before the war the architectural chariot trundled along a nice, smooth road surrounded by scenery decorated with all the ancient grandeurs, and just when we fancy we are safest the road becomes a yawning chasm, and the ancient grandeurs are beginning to disappear in their own dust.

The logic which has always seemed to me a little thin, that a perfect continuity should exist between the past and the present, and between the present and the future—that precedent should always control and govern progress—has suddenly seemed to become invalid, because architecture in its last analysis is, after all, only a reflex and a reflection of consciousness, and consciousness is now moving in a direction at right angles to every known direction.

If consciousness is moving thus, what becomes of architecture? It must follow the expression of movement of consciousness, otherwise it can only produce works which are dead before they are born. Now, when we come to think it over, is not that very largely what we have been doing—the production of works that are dead before they are born?

We have been immersed in the glory that was Greece and the grandeur that was Rome. We have been keenly alive to every manifestation of beauty in every civilization with which history deals. We have made pious pilgrimages to the wrecks and ruins of ancient civilizations. But, how much have we sensed or realized of our own civilization which contains, perhaps, not so much of glory and grandeur, but which is highly dramatic, highly significant, and which has brought into the world certain things that are unprecedently new?

Of course, it is no fault of ours that we have failed to sense modernity, for each is in the same predicament. I do not imagine that the architects of Athens, or the painters of Florence had much of an idea of what we call the age of Pericles, or what we call the time of Lorenzo de Medici. They were up to their necks in what they were doing, and they did what they did instinctively; but, at least they did it with some relation to everything else that was going on around them. They were the moderns of their day, and they strove to be as modern as possible.

Our predicament is that we are in the position of the fish. We do not know anything more about modernity than the fish knows about water, which is the very medium in which it lives and moves. We splash about in this medium, and we are tremendously busy, but we know very little about it. We do not sense it dramatically.

So far as I know the only man in the age in which we find ourselves who sensed it was Walt Whitman, who sensed the idea of a great democracy merging forward to some unprecedented destiny.

Now and then we glimpse the wonder and mystery of modern life, the silence of great spaces, the din and glare of great cities, the clatter of factory windows working overtime, the hunger in the hearts of the people who go to the movies and push away the hero and the heroine so that they may act the parts themselves, the festering slums cheek by jowl with the comfortably protected happy homes, each one oblivious and ignorant of the other. We look at a map of America, and we see those great cities, some of them larger than my own city, which have grown up within our own lifetime, strung along the railroad like beads on a string. We go through them in the night, half awake, and they mean no more to us than so many feathers dropped from the wing of sleep.

If we can get a more dramatic, more poignant, more intense sense of our civilization, our work would undoubtedly profit by it, because, as I said before, architecture is nothing but the expression of consciousness. Think of our great ocean liners, and of our great hotels, each one a microcosm in itself—a suicide perhaps separated only by a thin wall from a bridal chamber—the stokers in the hold, and the fortunate walking the free air on the deck. Nothing like it has ever been seen before. It is intensely dramatic, and being intensely dramatic it is very much the subject for art. Not directly our particular art, perhaps, which is more sluggish in its following of the movement of consciousness, but yet I feel that if we preoccupied our minds with these things, instead of with Greece and Rome and Egypt and medieval France, our work would flush with a new life and a new meaning, and we might lay the foundations of an art which would truly represent our consciousness and our state.

The architect is, from his very nature, an interpreter. At its best architecture interprets the absolute beauty to man—interprets God to man; at its second best it interprets man to himself; at its third or fourth best it interprets the architect to other men. Of the first we have nothing. Of the second we have a little. Of the third we have a great deal.

After all, is not a great deal of our preoccupation with expressing our individual preferences and writing large in space and in permanent materials our individual predilictions and tastes? There is just one degree lower than that which we are often forced into, and that is expressing the predilictions and tastes of our clients.

I do not talk to you here today as from any superior point of view. We are all in the same welter. We are all immersed in the same sin and the same suffering, and I do not want you to think that I am preaching to you. We are just fellow craftsmen talking together and trying to get a vision of what the future may hold for us as architects, and what our duty is.

The note of service was sounded here this morning, and that is the note which we must continue to reiterate. We want to serve. How shall we serve best? Whom have we served in the past? Has it ever been really the people? Have we not served ourselves, and have we not served our clients who are, for the most part, what are called capitalists, or the Government, which for the most have been politicians. Have we got to the hearts of the people? And by the people I mean the long denied, those who have never found voice, who have been crushed down under a system which the war is making forever impossible?

I speak from peculiar experience, and therefore with peculiar authority about the wonderful potencies that dwell in the long denied—the potencies of creation, the potencies of appreciation, the potencies of co-operation.

We as architects have been shut off from the craftsman. We have approached him as third or fourth removed. We work through the contractor, and he works through those men, and we seldom come into personal vital touch with the man who executes what we have conceived.

Consider how different the situation was in medieval Europe when the great cathedrals arose, each man an individual craftsman, let to work his own fancy in the work of his hand. I feel that some return to that condition of things will be a glorious advantage for our part.

I know and you know that the people love beauty. I have not the presumption to say that I have ever given them beauty in the way of architecture in three dimensions. No one man can ever do that. Architecture is a growth—it is an accretion. It is like a coral island which is built of hundreds of thousands of consciousnesses, but consciousnesses which are working in one direction and towards one destiny.

We are working at cross purposes. The pundits in our profession have no common agreement among themselves. Cram will write an article to prove that Gothic is the only style worth consideration. Hastings will follow it by an article which pooh poohs the whole proposition, and says the Renaissance is the only legitimate successor of the styles of the past. Think what confusion it must awaken in the minds of the young men who are eager to learn and absorb.

We have no common ground, and the reason for that is that we have assumed we were building on a something that was already existent. For my part I am very glad the war has made it forever impossible that we should put the cap stone on the Victorian art. I would much rather be digging down at the foundations and putting in the footings of the architecture of the future with no hope that I would ever see the structure arise.

I do not want to be a prophet of despair. I have not come here for that. My idea is to indicate, if I can, the development which our art may possibly undergo under the changed conditions of consciousness which are now operative in the world. Before I get to that, however, I shall have to make a classification, in order to render my meaning clear. There are not five orders of architecture, nor are there fifty—there are only two, and I call them "arranged" and "organic." This is a classification which is independent of time, or country, or period. These classifications correspond to the two classifications of the human mind which we express indifferently as "talent" and "genius"—bromide and sulphide—the recent and the ancient—the conservative and the radical.

The one type is governed by reason, the product of taste, often immensely competent and very convincing, but following a law all its own. It seems to say "I will show you a trick worth two of yours"; and we find when the thing is done that it has been done by some Euclidian arrangement of lines and circles.

The other seems to come from some obscure inner necessity. It seems to be not so much the man as the work that is through him and in him. "The passive Master lent his hand to the world's soul that o'er him planned." It is organic in the true sense. People do not have to be taught to understand it, because they have the meaning of it in their hearts.

Of course there is no hard and fast demarcation between those two orders of architecture. One often merges imperceptibly into the other. But, roughly, organic architecture is that architecture in which the form everywhere follows the footings and expresses the foundation; and arranged architecture is that architecture which is built up on some predetermined canon of beauty. The organic is not so much to make a thing permanent and expressive of its inner nature necessity and function as that it shall be a pleasing combination of light, and shade, and masses, and materials.

Looking down the centuries we find that the most perfect expression of the organic spirit in architecture was in the cathedrals built in northern Europe from the eleventh to the thirteenth centuries—the golden age of the cathedral building. They are palpitating with life—they are ever various—they are ever free. They are built just as a bird builds its nest, one might think—through some inner compulsion.

As you know that was an intensely religious era. There was one dominant religion, to which everyone subscribed and conformed. It was the age of mysticism. It was the great age of the Christian Church.

Then, as life became more secular there was a change to the arranged architecture of the Renaissance, and that has proceeded down to what is sometimes called the scientific century—our own time—which has been called by Kimball the Post Renaissance.

The wave of arranged architecture has not yet died on the beach. It is the one in which we are largely living.

I believe there are very good reasons for thinking that the next manifestation of organic architecture will be in the true sense organic, and by that I mean something entirely different from a reversal to the Gothic. I mean the inner spirit of organic architecture. I believe we are approaching a great spiritual Renaissance. I think that the spirit of brotherhood and the spirit of service born in the camps, and cemented on the battlefield and in the trenches is to all intents and purposes the new religion of humanity. I think it will prompt men to such strange renunciations, such psychic renunciations as have characterized religious upheavals in times past. I think it is doing it now, and I think we already feel the breath of that new wind of the spirit which is to regenerate the world.

A great many people look with distress and foreboding at what they call the irreligion of modern times, but to my mind, they have entirely failed to read the spirit of the times. The fact that the spiritual sense fails to express itself in any large and vital way through the studied channels of our churches does not mean that God has ceased to speak to men; it does not mean that man has become irreligious; it merely means that God is speaking to man in a new way—and I will make so bold as to say (I am very indiscreet I know) that the real essential trouble—and there is a real essential trouble—between the returned soldiers and the Y.M.C.A. is the failure of perception that the soldiers are getting their religion through other channels than the Church, and the religion they are getting is real religion—vital religion. The matter does not hinge at all on the price of cigarettes, or anything of the sort. It is something that cannot be formulated in words, and it is something that can never be brought out in an investigation.

For me, the men who have given over everything, who have been face to face with death, and who have seen their comrades struck into temerity in the twinkling of an eye are getting spiritual compensation and spiritual refreshment from that new religion, and they do not need a dogma or a creed interposed between God and themselves.

If this hypothesis is correct, if religion is renaissant in the true sense, we will have an organic architecture expressing itself in new ways, by people who are not its slaves, but who are its subjects—the subjects of an over soul, of a Demos, of a Divinity, which is using men as we use bricks to build a great temple which is not made with hands.

That is the essential and all important and all embracing change which will come to our art if things turn out as it seems to me they may, judging by the indications we already have before us.

But, to come down more to essentials, let us see if we cannot in a more concrete way discover some of the characteristics of the architecture of the future.

It will be democratic. It must be so, because the people will rule. And if we as architects fail to make the people our clients, we will have failed—they will not.

You will find that the people will make wonderful clients. They have never been tested and tried in the way of being clients. We have given what we thought the people wanted, but have we given them sheer beauty? No, we have given them archeology, and often very bad archeology at that.

For three years I have been creating beauty in light—and light itself is beautiful—I did not create it, God created it. I have been creating beauty out of doors, in parks. Mr. Barnhart has had those wonderful choruses, getting all the people to sing just for the joy of singing. We have had color, light, motion, song. There was nothing but beauty to attract the people, yet they flocked to it as moths flock to a flame. We were not trying to put over any propaganda or anything of the kind. It was done purely for the love of beauty and for the joy in the hearts of the people.

From watching the reaction of those great crowds, I know that the people respond to beauty, if you give them beauty.

Now, it is our problem to be sure we give the people beauty, and if we do they will respond to it without fail—automatically—they do it instinctively—they could not resist it if they tried. It is the very nature of beauty—it is like sunlight.

A new note has been sounded in diplomacy, in business and in social life, and it is expressed by the phrase "Live openly; let in the light." Already by the operation of an occult law we are in a very literal sense letting in the light. I was in the smoking room of the sleeper last night, and I heard a man speaking about a factory which has just been built. He said "Now they have built buildings which have windows instead of walls." Instead of this old pepper box system—this dead house arrangement—in buildings devoted to large uses, you know as well as I do, we have great apartments lit with vast areas of glass, and so designed that those who occupy them get the benefit of the outside light and air. This brings us to the literal juxtaposition which is the outward symbol of brotherhood.

"Let in the light; and live openly" has already found an architectural expression, and I think it is bound to multiply out of all measure, and as brotherhood comes into the world and as spirituality triumphs we will have more and more houses of light.

We can do almost anything with glass nowadays. It is in process of development in regard to the various methods of holding it together and making it weather tight. I understand that before the war a peculiar kind of glass was invented which let in the light rays but kept out the heat rays, so that the problem of the equalization of temperature can be dealt with even more effectively.

I conceive a city of the future—not a pepper box, but great buildings with great domes of glass. We will live on the roofs. People lived on the roofs before, and why should they not live on the roofs again? Some of the newer hotels are so built that people can eat their meals and enjoy themselves on the roofs, and they have gardens in the summer, and skating areas in the winter.

When I look over New York and see nothing but gravel and tin and chimneys and slag, it seems an utter absurdity and an utter waste that all that area, so near the sun and so far from the street, should not be utilized for living purposes.

By reason of our competitive civilization we have made canyons of our city streets. There is no inherent necessity for such a thing. There is no reason why our road ways and our sidewalks should not have the light as well as the roofs.

The evil can be obviated in several different ways. For instance, we could step back the facades of the buildings, make terraces and hanging gardens, and bring out wonderful effects in light and shade, or we could have streets of high buildings alternating with streets of low ones, and we could have occasional isolated sky scrapers where they would not shut out the air and light from their neighbors. In other words, our cities might be designed with some reference to the common good.

Individualism is so sacred with us now that a man has a right to make any kind of nuisance, so long as he confines it to his own front yard.

As I say, I conceive of cities of light. At the same time, the city itself is a great cancer or sore spot on the face of the world, and if it grows to too great proportions I doubt if it can be anything else. With the improved means of transportation now at our disposal, and so enormously increasing, there is no reason why almost every one should not live out in the free beautiful country, and the cities become merely places for meeting people to transact business, for taking our pleasure in in the way of theatres, etc., and then we scatter and get that beneficient benediction of the fields and the forests and the streams, and come back refreshed by the wonderful contrast of the two kinds of life. Of course only the rich can do this now, and they do it at a terrible cost.

Apart from our greater appreciation of sunlight, there is another way in which this spirituality is symbolizing itself, and that is in the marvellous development of artificial illumination. There is nothing that cannot now be done with artificial light short of making the ether itself luminiferous; but we have gone no distance at all in trying to make interior illumination beautiful—it has always been in the hands of the illuminating engineer and advertiser instead of in the hands of the artist.

I believe there is in light a whole abstract art, more wonderful than music itself—that we can express emotional ideas, get reactions and consciousness, through mobile color more so than we do now through harmonious sounds.

If the question of our lighting once gets into the hands of the artist, if our highest effort is placed far beyond the beer and chewing gum sign and the automobile sign, we will have a most wonderful new element to juggle with, which the past has never had. We sigh and bemoan the fact that we have not the chances the architects of the past had. Why, we have more wonderful chances, if we will only take them. We have even enough material out of which to create new things. If the architects of the past had had artificial light as we know it, they would have done marvels with it.

With the cultivation of such an art, we will have to develop color sense; the eye will begin to be cultivated just as the ear is cultivated. It is the era of music that developed the ear. If we are constantly confronted with combinations of beautiful color, our eye will get more critical and more discriminating, and we will develop a sense which is full of light, and our architecture will become more colorful.

There is no doubt color will come into architecture again, and it will come because joy will come into our hearts, and color is always the sign manual of joy. The reason our cities are so dun and drab—the reason we dress in such a sombre and drab way is because our hearts are sad and oppressed and weighed down.

There is no reason why our cities should not be colorful. We decry the happy irresponsibility of the savage, and we sneer at the contentment of the Oriental with his lot, yet they are happy and contented, and therefore they work color into their lives. When the shadow of this war has passed away, and when we begin to organize life for life, instead of organizing life for death, we will be happy, and will express that happiness in color. So, I look for the architect of the future to be colorful.

Now that the war has made the immediate past suddenly more remote than slow centuries could have done, it is appalling to see how persistently we have organized death. Of course, the war has thrust that necessity upon us, but, behind that what thrust the necessity of the war upon us? Proximately Germany, we will say; but, it has been the war spirit in every nation—it has been the war spirit in every human heart, which may have found its apotheosis in materialistic Germany which started the conflagration. At the same time, we cannot absolve ourselves for the responsibility of this great cataclysm, because if Christendom had been truly Christian the war could not have happened and the world could not have been set on fire. It is because we have organized death.

Not long ago I was examining a bullet, and I was told by the man who made it "You note it has a lead centre, with a nickel casing. This casing is put on because if the bullet were made entirely of lead it would be so soft that it would mushroom on striking a bone. The hard nickel keeps it together, so that it will go through a man without killing him unless it strikes a vital spot." That seemed to me the whole symbol of our civilization. We have organized death and then by putting a nickel casing around the bullet we have tried to mitigate it so that humanity would not be destroyed.

There is in the world a great deal of excellence, and altruism, and good feeling, and true Christianity, and true kindness, which had to be organized, which has been organized in organized charity, and the Red Cross, and the Y.M.C.A. and so on; but after all that is only the nickel on the bullet.

I tell you, gentlemen, if we were to organize life instead of organizing death we would not know we were living in the same old world. I could go on and on and sketch according to my own notion some of the possibilities of the architecture of the future, but my time only permits mentioning one or two other features.

There is the matter of ornament. Ornament is deeply psychological. It is so psychological that if you have a detached fragment of the ornament of any great building of the past you can tell, even from that fragment, about what style it belongs to, and about what period it comes from, because it so expresses the psychology of the people who created it.

In the way of ornament we have nothing at all to show. Nothing reveals the aesthetic poverty of the end of the iron age so much as the fact that all our ornament is out of the past—from the dust bin of the ages. The egg and dart, and the bas relief, and the bead and reel, and the acanthus, and the cartouche, and the eagle, and all the junk we put on our buildings are all from the past. How much have we created? Nothing. We have nothing at all to start from—no evolution at all.

How will we meet the problem? I am trying to solve it for myself individually by going back to geometry, because all our ornament, even the most intricate arabesque, can be traced to geometry.

Ornament has always been a system of symbols—a picture book. The sculpture on the Greek temple was just a picture book of the Greek religion. The ornament on the cathedral was a veritable Bible of the Christian faith. If we have a new religion, it will develop symbols of its own, and those symbols we will weave into patterns just as the symbols of Buddhism, Christianity and the Chinese religion are woven into their patterns, and the whole contents of Chinese, Japanese, and Hindoo art is simply a system of religious symbols.

So, the only solution to that question lies far in the future, and that, perhaps, is the way in which it may come.

Of course, I do not mean it will come soon. I doubt if we will even live to see the beginning of it, but we are getting more and more a sense of the effect of life, and undoubtedly this group of men, standing as they do as the curtain goes down on the great drama, have it in their hands and power to put in the footings of a new, true, vital constructive art.

That is the difficult way. It is not the easy way. The easy way is "Business as usual." I hate that phrase. If the war has not told us more than "Business as usual" the old world ought to perish. If we cannot take up our new tasks with a new spirit of service, with a new vision of things, I, for one feel we ought to be in the dust bin. Not "Business as usual" but the creation of a new art of democracy which will express the new spirit of the world freed from the iron bondage of materialism and facing the unimaginable splendors of the spiritual life.

DISCUSSION.

The enthusiastic applause which followed Mr. Bragdon's address gave abundant evidence of how thoroughly it was enjoyed by those in attendance. It represented, to say the least, an intensely interesting subject admirably presented, and led to one of the most spirited and enjoyable discussions which has characterized any of the R.A.I.C. meetings up to the present time.

Prof. Traquair: As Vice-President of the Arts Club, I would like to say how very pleased the Club is to have the architects making use of its rooms for their Annual Meeting. Very many architects belong to this club, and I need hardly say to you that it gives us the greatest pleasure to find that the club rooms can be made use of on an occasion like this to make your stay in Montreal more comfortable and to give you every facility we can.

I have listened with the very greatest pleasure to Mr. Bragdon's most interesting and able address. The question of the architecture of the future irresistibly calls to mind what Chesterton says about the fate of prophets: That in every age there were prophets, and when the prophets had finished prophesying they died, the people buried them as quietly as possible, and went away and did something else.

One has to be careful in prophesying, and unless you can prophesy all the things that are likely to happen it is very improbable you will strike the right one.

Mr. Bragdon said he is indiscreet, so I hope you will excuse me if I should be indiscreet because, to my mind, it is the only comfortable way to be.

In talking of architecture as an expression, I think a study of history shows us that architecture has always been an expression of the particular civilization and activity of its kind. For instance, the greatest achievements of the middle ages were religious, and the natural result of the very strong hold which religion had on the minds of the people was that they built religious buildings as the normal and the right thing to build. The civilization and culture were then the Church, and therefore the Church was the expression of the age. To-day we are proceeding along the same lines.

If the study of history is to do us any good, it is not as showing us what to copy, but as showing us how development takes place.

At the present time we find the main activities of life all over the world are undoubtedly commercial, and our great buildings are, therefore, commercial. Our distinguishing architecture at the present day is not our public buildings as mere archaeological remnants of Greece and Rome, clustered together according to more or less academic systems of planning, but that those buildings are worked out so that they look monumental and big. At the same time, they are inevitably dull.

I know of no more impressive sight in Toronto than the corner of Yonge and King streets, and it is impressive because of the great towers built there.

The architecture of to-day is real architecture. It may not be enduring architecture, and I do not know whether it is great architecture, because we are so close to it. Yet, I believe the Woolworth building is the modern representative of the ancient cathedral. It is built with conviction; so was the ancient cathedral.

In a way, some of those buildings have a wonderful symbolic quality. Looking at them from one point of view we may imagine them as tremendous beehives; the business man and his clerks flitting out of the innumerable buildings every night, and flitting back in the morning. They are gigantic beehives, and they look it. They are organic, real architecture, and those I have seen are tremendously impressive, with all the impressiveness that comes from a genuine problem genuinely solved. They are far more impressive than acres upon acres of Doric colonnades.

I think we are all coming to the conclusion that building in style is a thing of the past. The kind of motto that one takes in regard to ancient buildings and styles is that it is a good thing to know them, but not to use them.

Another very interesting problem which I think is likely to affect our architecture is the problem of the city as a unit and the problem of the small house. Concentrated attention is being given all over the world to-day to what is called housing schemes, and it is right that it should be so, because it is a most serious problem. Vast sums of money have been wasted, and are being wasted, on perfectly unnecessary pavement, simply to mention one instance. If one takes a plan of any block of the city of Montreal, we find streets too broad for the traffic that goes through them, but which form excellent speedways for the motor cars. We find the houses all facing on the street (at least any of them we can see), and they have an area left behind devoted to dead cats, bits of boards and garbage cans and all the rubbish of a back yard. More than that, we find the greatest amount of waste space where land is worth $5.00 a foot. The more valuable the land the more people seem to delight in wasting as much of it as possible. Yet, in face of this, we call ourselves a businesslike people.

One may imagine a city with one-quarter the pavement and accommodating as many inhabitants if every bit of available land were made use of, and if people will not keep their back yards properly (and it is very hard to keep them properly as they are now planned), let those spaces be delivered over to the city gardener to keep.

I will engage to say that the amount of space we waste in the normal reasonably planned residential parts of the section (and I am not talking of the slums) would fully suffice for quite a large amount of pleasure ground and playground, and it would not be necessary to allow our children and the children of our poorer neighbors to have as their only playground the space between the wheels of the motor cars and under the feet of the passers-by.

The use of color, referred to by Mr. Bragdon, is another extremely interesting matter, and a very difficult one to deal with. It is hard to get color when we use it so little ourselves.

In moments of indiscretion I have often felt inclined to ask some of my clerical friends what is the color of sin. We know what the answer would be, and I know I would have him very badly about thirty seconds afterwards. What is the color of death? We all know. Yet we go about dressed in perpetual mourning.

Why do we wear clothes that are so badly made that we cannot get them washed? If we belong to a civilized people, why, in the name of commonsense, do we adopt a system of clothes that fall to pieces before we can get them cleaned? Still, that is very nearly what we do at present.

In our houses and our public buildings we do practically the same thing. Everything is arranged so as to give the utmost possible amount of discomfort, with the maximum amount of expense. I believe there is an enormous future for city planning, and this very question will be one of the most important and most difficult with which architects will have to deal.

We will not advance in the direction of enormous public buildings, and I doubt if we will advance very far in the direction of great religious buildings. Our public life is very much like that of ancient Rome, and our religious life very like that of medieval Europe. Our community life is something which still has to be developed, and one has only to turn to the building papers to see what an enormous amount of thought and attention is being devoted to that particular branch at the present time, and I think we may hope to see very great advances in that direction which will really produce a much higher degree of civilization —not merely the civilization of a few at the top, but a civilization which shall include everybody in our country and work in every way for a real and true democracy.

In closing, I would like to propose a very hearty vote of thanks to Mr. Bragdon for his address, which, speaking for myself personally, contains a great deal of material worthy of very careful consideration. We all know Mr. Bragdon as a thinker in such matters, and whose words bear the stamp of authority.

As I suggested to one of our members just now, the only pity is that o noccasions such as this, the audience Mr. Bragdon gets is not the right one, because we all know the truth of what he says and we all agree with him. If we could only have an audience of those who do not agree with him, I am sure we would be doing even a greater work. I wish we could interest them, and I wish we could get a little more idealism and a little more creative thought into places where at present I am afraid nothing reigns but darkness.

Mr. Wickson: I have much pleasure, indeed, in seconding Prof. Traquair's vote of thanks to Mr. Bradgen, and in doing so I should like to say that rarely has it been my privilege to listen to such an able and well-considered address as the one we have just heard. I feel that it would be to our advantage as architects and as individuals if we had an opportunity of hearing a great deal more from Mr. Bragden. He has presented a very interesting subject in a clear, concise and interesting way.

Mr. Bragden: I thank you very much, gentlemen. I appreciate deeply your kind attention in listening to me and the vote of thanks you have tendered me. I feel my audience has been the right one. I feel that the architects themselves are the ones to carry this message to the larger community in which they dwell, and that is the way it will grow. Each of us will become the seed of a giant plant.

I began my address to you rather brusquely, and I did not have an opportunity of saving what a great pleasure it is to me to be among you, and how much I value the invitation you so kindly extended to me, and how much enjoyment I have derived from the brief visit I have paid you. May I also say that in my more recent visit to your country I have discerned a new spirit here of which I wish we had more. I think you are in process of learning a great many lessons which we in the States are only just beginning to learn, and while I would not have those lessons purchased at the awful sacrifices of life and suffering at which they have been purchased, I wish we might learn them, none the less.

I like the cultivation which I find here in this English-French community, and which in the States is largely feminine. Far be it from me to disparage the feminine nature, but, at the same time, the fact is that our culture is in the hands of our women, and it is a little colored by the feminine temperament, and they very often let it slip through their beautiful fingers.

I like the sturdy quality of the English. I like the éclat of the French. And I think perhaps I do you more justice than you are disposed to do yourselves.

Mr. Venne: As one of the older members of the profession in this province, I wish to thank Mr. Bragden for his most interesting address, in which I found a great deal of food for thought. The modern architect has modern problems to fix, and must meet and deal with them to the best of his ability as they arise. This seems to lead to what I might call a certain spirit of isolation, or individualism, and the result is that our architects to-day may not work as harmoniously as did the architects of the early or middle ages. Of course, our problems are not the same as theirs, and this very likely accounts for the difference.

The problem we have to deal with is the problem of commercial architecture. Professor Traquair spoke of the Woolworth Building. From my point of view, the Woolworth Building is an architectural work equal to any of the early or middle ages, in the sense that the Woolworth Building is the solution of many of the difficulties presented to the modern architect.

Then, we have our theatres, our big stores and our railway stations, all of which solve comparatively new problems. In many places the problem of the railway station has been solved in a marvellous manner, for instance, the stations in New York and in Washington.

I do not think we should look forward to the future with any misgivings, because the architect must always be prepared to do new things as the occasion may arise. His problem is always new, and he will always be face to face with new conditions. If he solves these problems from the point of view of practicability and beauty, to my mind it does not make any difference if he inclines to the Renaissance or to the medieval.

Mr. Bragden spoke of ornamentation. I do not think it feasible to create ornamentation entirely out of new material, absolutely neglecting the past. I do not believe it can be done. We cannot totally ignore the past, and we must stick to the old traditions to a certain extent. Personally, I feel that if the architect will face the problem of the future with wisdom and strength, he has nothing to fear.

Mr. Bragden: I do not know whether I am expected to reply, but I would like to say a word or two. No one admires the Woolworth Building more than I do, but "one swallow does not make a summer."

As far as the railway station is concerned it is a modern problem, and it has had to be solved in a modern way. The Pennsylvania Terminal is just a monument to Mr. McKim, and it is only of the grandeur that was Rome. There is no suggestion from the outside, unless you get away from it, that it is a railway station at all; it might just as well be a library, or the Bank of England.

The New York Central Terminal is more French than the French. It is as false as it can be. They have put a floor right across those great arches, and have put mirrors where the glass is so that the fact that there is a floor there is absolutely camouflaged from the eye. At the same time, it is an anachronism to use any ornament in a railway station that is older than the railway itself. I built a railway station, and the hardest work I had was to get an ornament reminiscent of something that was not over one hundred years old. I do not know how I succeeded, but at least I made an effort not to commit the anachronism like giving Cæsar a watch or filling up a railway station with all the plunder from the past.

Mr. Beaugrand Champagne: The point of view of Mr. Bragden and the point of view of Mr. Venne, although apparently somewhat at variance, are really very close together except in exterior form. The only difference is in the envelope. As Mr. Venne says, the Woolworth building is a wonderful structure, and has solved many of the problems the architect had to meet. But, as Mr. Bragden very well puts it, "one swallow does not make a summer." So far as railway stations are concerned, it is quite true we have not anything just in line with the Pennsylvania Station, but from that I think we may draw the conclusion that the architect of the present is quite able to cope with the problem as it arises, and that, generally speaking, the result he attains will be satisfactory and acceptable.

Mr. Venne holds out somewhat for adherence to tradition; in this he is a little French. Mr. Bragden, on the other hand, holds for a secession from the old form, and in this he is an American.

Mr. Venne: In my younger days I used to follow modern architecture, and especially American architecture, with great interest, and my master, Albert Menard, was in the habit of making awkward comparison between the Italian Renaissance architecture and the Chicago architecture of those days. Of course, at that time the architecture of Chicago was rather extravagant and over-proportioned, to say the least.

When Richardson came into the field, he was a traditionalist who introduced new ideas into his old South of France architecture.

The influence of McKim, Meade and White on architecture may be discussed from several points of view. The most important one, to my mind, is that whe nthey began their career they put some kind of method, order and authority into the chaos which was represented by the Chicago Renaissance d'Italie architecture. I do not say that McKim, Meade and White have revolutionized architecture, but I believe they have crystallized it, and put something new into it. Modernism in architecture is not a thing that can be adopted suddenly. It is a growth, the same as anything else—a gradual development.

Mr. Bragden: With that sentiment I am heartily in agreement. Undoubtedly, we change by slow transition. What I was trying to give you a vision of was the architecture I had in mind, which will be reached by many rotations and permutations.

I know that every eminent architect, such as Richardson, and McKim, Meade and White, contributed their quota to raise the standard by which the rest of us have to work. No man could do as poor work after McKim, Meade and White came as he could before. They were immensely sensitive and conscientious, although, to my mind, they followed false gods. They had the spirit of beauty, and it is a joy to come across one of their buildings amid the ruck of an American city street.

There is no real point of divergence between me and any gentleman here, I think. I am a visionary; I look far beyond. I am going to the result in an aeroplane, whereas they are taking a limousine or a railway train, or perhaps they are walking—but we are all covering the same ground.

I am sorry I have to leave you now, because I must be in Rochester to-morrow morning. But, before I go, let me say again that I thank you for your kindly reception and your courtesy, and if I have given anything I have received correspondingly.

Mr. Archibald: I enjoyed Mr. Bragden's address exceedingly, regretting at the same time that I could not appreciate it to its full extent from a business point of view.

It seems to me unless we have ideals in life we fall far short of the highest objects in life. If I might draw a comparison between what Mr. Bragden said to us this afternoon and what has appeared in the American magazines lately, I would say that Mr. Bragden spoke from a humanitarian point of view, whereas the American exchanges discuss the subject almost entirely from the materialistic point of view. The articles in the last few months have been almost absolutely confined to the question of how the architect shall run his office to benefit fully by the change that is going on, and that will go on, in the world as a result of the war.

I was also struck this morning by the discussion as to the increase of tariff on plans made in the United States for buildings to be erected in Canada, and I could not assimilate it with the views expressed by Mr. Bragden. I do not pretend to be artistic, and I do not pretend to be an architect in the fullest sense of the word (if I had been, I should probably not have been appointed to the Tramways Commission). Architecture is a very good thing to speak about, and to read about, but business pays the rent. At the same time, I am artistic enough to feel that architecture should not be bound by artificial boundaries. What are we going to gain in Canada by increasing the tariff on plans made in the United States for buildings to be erected here? Absolutely nothing. We are only tying our own hands; we are only showing our smallness of mind. There should be an absolute interchange of architecture and architectural ideas between Canada and the United States. We are bound together closer to-day than we were before the election of 1911, and in the future our business connection and our community of business will be closer than ever it was.

Instead of raising a higher barrier against American architects, wipe out your protection and put a clause in the tariff law that any man engaged in business in the United States who puts up a building in Canada will be obliged to engage an architect in the United States. If this were done, I think it would be a great benefit to us. If a building goes up that we can admire as architects, it is something for the rest of us to aim at, and if we cannot do as well ourselves, at least we have something to look up to.

Mr. Wickson: I have always felt that architecture is a good deal like language, in that it is a development, and that one cannot discard entirely what has always been in the past and suddenly start off anew.

I am very glad Mr. Bragden spoke about light and about color. It is a great pity, I think, that we have so little color in our cities. When one looks at some monumental building, with its grand columns and its entablature, and its stone cornice, one admires the proportions, but I sometimes try to picture to myself what that same building would be in white marble with the decorations that the Greeks made use of when they built.

Really, one gets a feeling of grayness and coldness when one thinks for a moment of the difference between the two, and I think that all architects might devote a little more attention to this question of color. In a most trifling way, we tried it out on a residence not long ago. It was a plaster residence, and we had a green tile roof. Naturally, the woodwork was not pointed in strong color, but was a very subdued whitish gray. In the soffit of the cornice, which was very broad, we put in very dark rich blues, reds and greens, and it has always been a pleasure to me to get near it and feel that there was a little warmth in one thing we had done.

What Mr. Archibald said raises a very serious question from many points of view. I think the development of our country and the development of ourselves should be considered as well as the fraternal feeling between ourselves and our neighbors. To my mind, the United States has been wonderful in its architecture in modern years, and if I am not very much mistaken that development has come from the fact that the work in that country has been given to their own men. The opportunities that that great country afforded were saved for and given to the men in the country, and they have developed and made the country what it is, with the assistance of the Canadians who have gone over there to help them.

I suggest to you whether it is not a good thing to consider trying to conserve our abilities for our own country.

Mr. Hynes: As a working basis, might it be suggested to Mr. Archibald that we have real reciprocity in the matter, and that when an American architect comes here to erect a building a Canadian architect should go over there and do the same thing?

Mr. Maxwell: This question of color is a very interesting one My personal view is that we use altogether too much color. I have been to Syria and Egypt, and over there the greens of the gardens, etc., supply the color. Most of the buildings are white plaster, but they have color on the roofs and in the painting of the woodwork. In the use of tiles, etc., they get their color accents. In other words, they have a big foil which brings out the value of the color used to accentuate certain features of construction of the building.

In this part of the world there is nothing more damnable than to go through our modern towns and see the miles and miles of the most abominable red conceivable. If we are going to use color as accents on buildings which are neutral or on which white material is employed, we have plenty of opportunity, without overdoing it, and I am certain that it can be so worked in that the result will be pleasing to the eye.

In the city of Montreal we have our gray limestone, which is terribly neutral. The color of our streets is the same. We have every opportunity to work in a little color, if we wish. In regard to our miles of red brick, they might be toned down with some of the green trimmings. At the same time, you cannot get the value of the color unless you have a foil, and that foil is certainly in our hands in the brick.

Mr. Vallance: Personally, I do not agree with Mr. Wickson in reference to color. My feeling is that we have enough color as it is. I have been accused of being a little "daffy" on the question of gray, but a number of years ago Montreal was probably the most dignified town on the continent. And why? Because of the uniformity. It was all gray stone. It might be a little dull at times, but it was a great deal better than the yellow brick, and the red brick, and the gray brick, and all sorts of brick which Mr. Wickson now wants us to introduce.

Can you imagine anything worse than white marble between two red brick buildings? I think the scheme we had thirty years ago, in which we had the gray buildings and the green trees, was far better. The green supplied practically all the color needed, but the architect could put in a little more if he wished. The endeavor to introduce color has given us brown stone, red stone, green stone, red brick, yellow brick, and so on, which is all color, but it is not regulated or artistic color.

Mr. Wickson: I quite agree with the remarks about red brick and the yellow brick, but that is not what I meant when I spoke of color. I meant color introduced as it should be. I know it is disheartening to go around a modern city and see the colors used, and I think perhaps Toronto sins in that as much as any other city, with its great repetitions of red pressed brick, etc. That was not what I had in mind at all. The one instance I gave of the injection of some color was in a building that was all gray, except where a little color was introduced, with considerable propriety, as I thought.

I quite realize that what Mr. Vallance says about the dignity of Montreal is not without its point, but I think there are some places where color can be introduced, and, as Mr. Maxwell says, if it is properly introduced it is beautiful. Of course, that does not refer to the rows of red brick houses.

Mr. Beaugrand Champagne: The gray color upon which Mr. Vallance seems to base so much of the dignity which was apparent thirty years ago in Montreal is not so much the result of study as the use of a material which we had to use. We had gray stone, and we were obliged to use it. When we had red brick, it was the only brick we could get, and we had to use it. The result was that sometimes we had miles of red brick houses, or miles of rows of gray stone houses.

Mr. Maxwell alluded to Egypt, and said that their houses were white and the roofs were green, but there is no question about the insides of those houses not being colored.

To my mind color in architecture, when it is the result of a study, ought to be encouraged; but when it is only the result of the use of material which we cannot do otherwise than use, it may not be just as interesting as if it were the result of study, but it is still interesting.

During six months of the year we have a climate something like that of Turkey, and during the other six months our climate resembles Russia. Why should we not follow the example of those countries? In other words, why should we say we cannot use colors because of our winters and our summers? In those two countries it seems the proper thing to use color, and there is no reason that I know of why we should not do the same.

Mr. Maxwell: Our friends from Ontario probably do not realize that there is as much color used in our French-Canadian villages in the Province of Quebec as you will find in any other country. The reason the Province of Quebec is so painful is because of that interesting, and in some cases semi-barbaric, idea of color which the natives of the villages apply to their buildings. It would be interesting for a good many of our architects to nose around the Province of Quebec and make a few observations in the way of color.

Mr. Wheeler: To my mind, Mr. Beaugrand Champagne has struck the absolute note in architectural color. It is entirely a question of material. If our material is gray, we must use gray and make the best of it. If it is red, we must do the best we can with red. The trouble with most of our brick manufacturers is that they have no half-tones. We have to take a horrible red, which we would not think of using if we could possibly help it.

It takes an artist born to use color. I do not think the ordinary architect is trained to color in the same way as is the artist who reproduces a picture. We do not know the combinations of color to use together, and if we did we could not get them.

I have thought a great deal of this matter of architectural expression, and I do not see where or how we can invent new form until we invent a new material for the construction of our buildings. All those forms are the logical expression of the material, and until we absolutely depart from a certain material we cannot invent new forms, because if we do we will simply get into a mess.

The very best forms we have are those which were used by the Romans or the Greeks. We have only two forms that I can see; one is the post and lintel, and the other the post and arch construction. If anyone can invent a new form of construction, by gradual degrees we will develop a new form of design to go with it, but until that occurs I cannot see that we can do better than go back to the old forms for expressing our aesthetic ideas.

POST WAR HOUSING.

Owing to the lack of space in this issue, the very interesting address of Mr. Thomas Adams, Town-Planning Advisor to the Commission of Conservation, Ottawa, which was given at the evening session, will be published in the next issue of "Construction." Mr. Adams spoke to an audience in full sympathy with the subject, which outlined the housing schemes of England and the United States and proposed war work in Canada, and which formed the basis of discussion up to the conclusion of the meeting.

R.A.I.C. OFFICERS FOR 1919.

President, A. Frank Wickson, Toronto; Vice-Presidents, David R. Brown, Montreal, and W. R. Van Egmond, Regina; Honorary Secretary, Alcide Chausse, Montreal; Honorary Treasurer, J. P. Hynes, Toronto. Council—R. P. Blackey and W. D. Cromarty, for Alberta; C. H. Acton Bond, C. P. Meredith and A. E. Nicholson, for Ontario; J. P. Oullett, Jos. Perrault and Herbert Raine, for Quebec; R. G. Bunyard, A. G. Creighton and W. R. Reilly, for Saskatchewan; and S. M. Eveleigh and Kennerly Bryan, for British Columbia.

Annual Meeting P. Q. A. A.

The annual meeting of the Province of Quebec Association of Architects on January 18th, was largely attended and resulted in the consideration of a number of important matters.

The report of the Council stated that a special committee had been appointed at the suggestion of the chief engineer of the City Council in reference to the proposed revised building by-laws, with the object of having them put in force, but that nothing had been accomplished owing to the reorganiation and changes which were taking place in the municipal government. Further efforts in this direction were to be made with a view to having the new regulations adopted as early as possible. During the year six new members were admitted to the Association bringing the membership to a total of 170. It was further reported that the War Graves Committee of the Association had been in communication with the Government with the object of appointing an architect and landscape gardener to the Canadian Graves Commission.

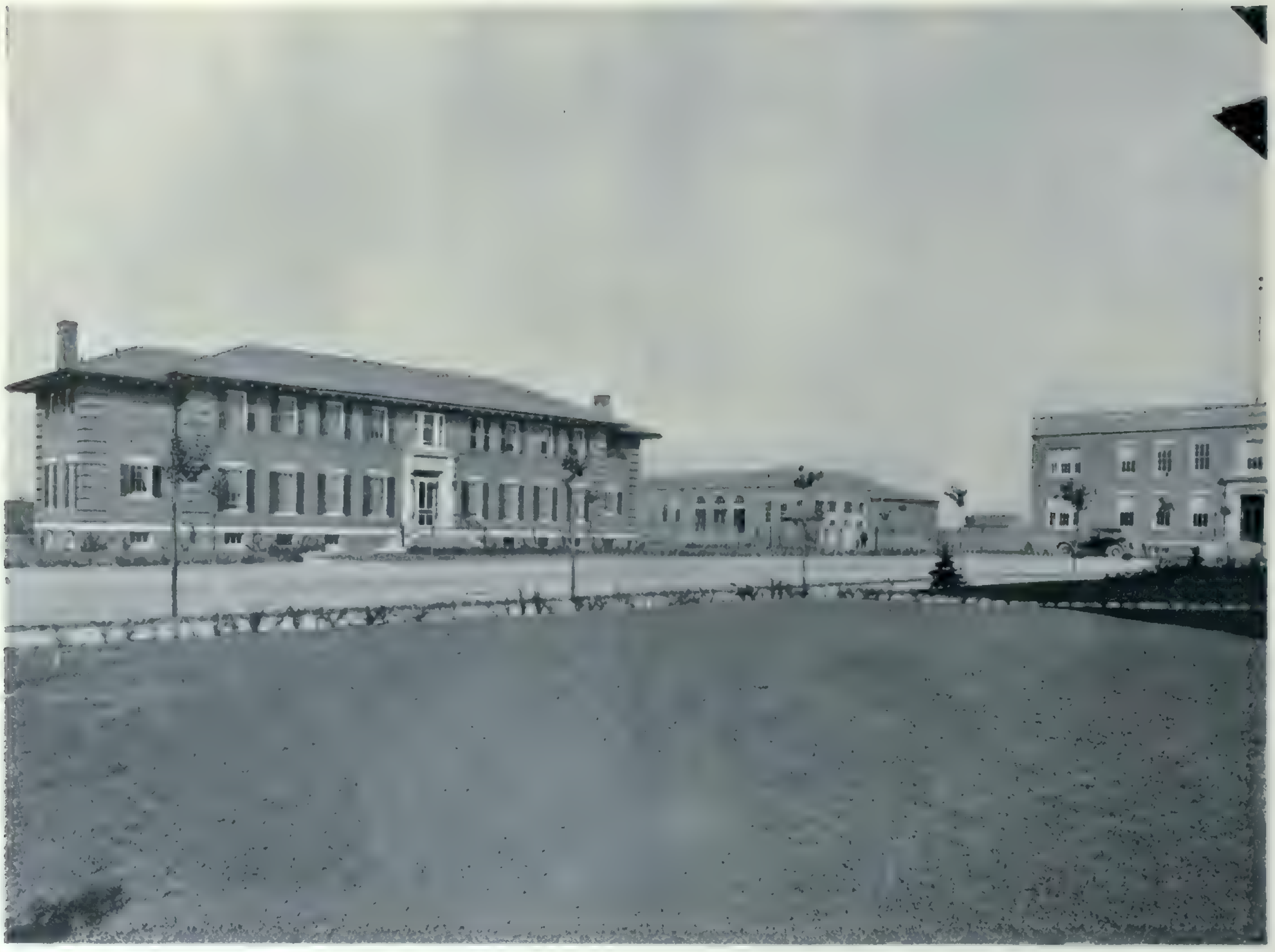
A letter was also read to the meeting from the Royal Canadian Academy on the subject of war memorial, in which approbation was expressed at the movement directed toward the erection of suitable monuments to Canadian soldiers and to mark the graves of those who had made the supreme sacrifice. The Academy, however, viewed with alarm the unguided enthusiasm directing the laudable efforts which were being put forth, and urged the necessity of entrusting these commissions to the most eminent sculptors and architects in Canada, so that credit and honor in the highest degree might result to those associated in the movement.

Certain amendments to the charter were proposed in a special report dealing with the regulating of students' hours, and recommending the holding of two general meetings yearly, together with the payment of a two and a half per cent. commission to young architects bring work into the offices.

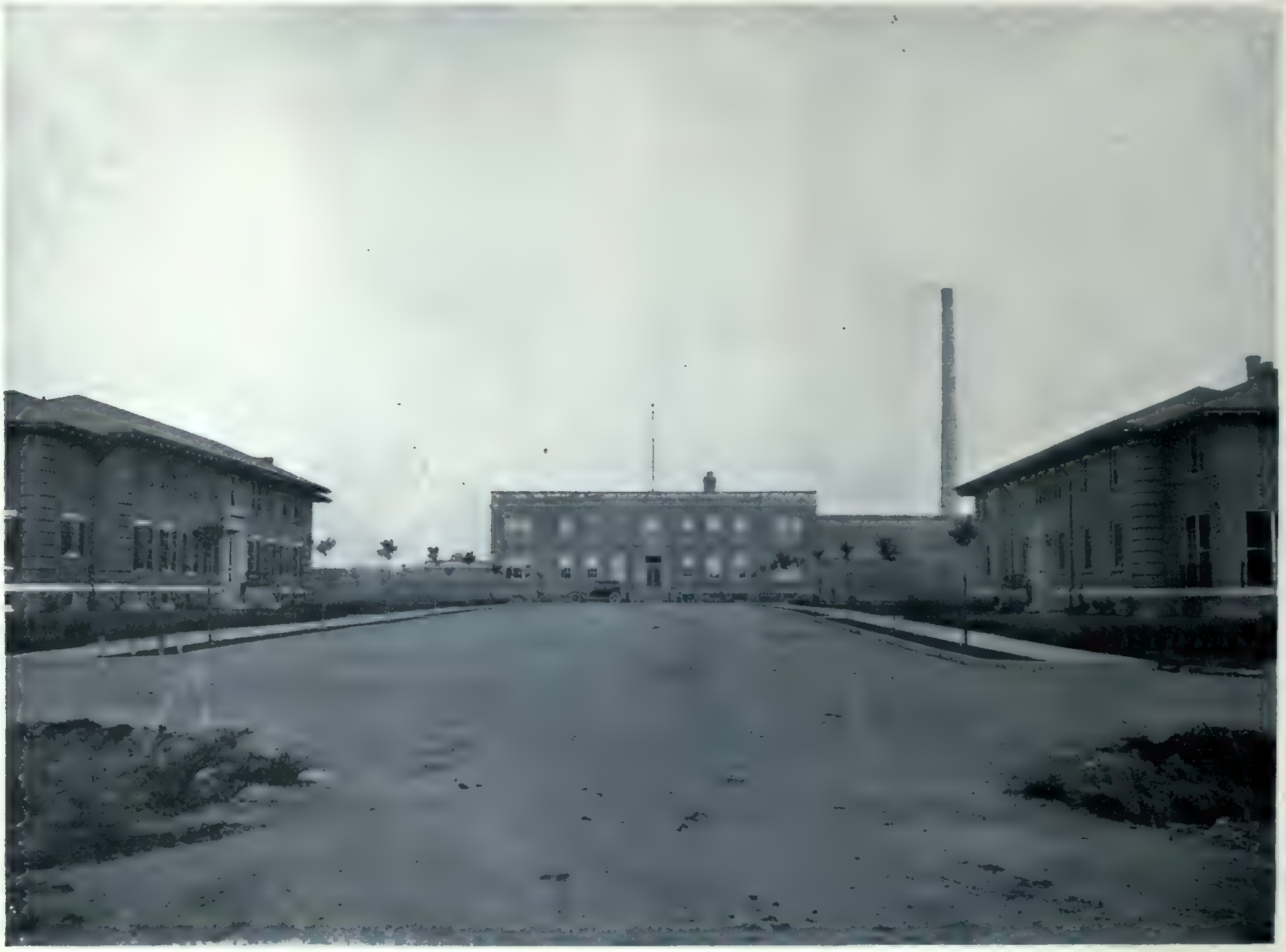
A proposal was also made to move the association rooms to a more central location with quarters on the ground floor, but failed to get the support of the meeting.

The annual election of officers resulted as follows President, Mr. J. H. Lebon; 1st vice-president, Mr. D. Norman MacVicar, nd vice-president, Mr. E. Payette; secretary, Mr. J. Emile Vanier; treasurer, Mr. J. M. Miller; members of the Council, Messrs. Beaugrand-Champagne, Jules Poivert, J. Asselin, L. A. Auger, and Prof. Traquair; delegates to the Royal Architectural Institute of Canada, Messrs. A. Chausse, Jos. Perrault, D. R. Brown, J. P. Ouellet, and Prof. Traquair.

A hearty vote of thanks was given to Mr. G. A. Monette, the retiring president, for the highly efficient manner in which he conducted the affairs of the Association during the past year.



LEFT TO RIGHT: MECHANICS' BOARDING HOUSE, HOSPITAL AND GENERAL OFFICE.



VIEW SHOWING MECHANICS' BOARDING HOUSE, GENERAL OFFICE, SUPERINTENDENTS' CLUB HOUSE AND PLANT IN THE BACKGROUND.

INTERNATIONAL NICKEL COMPANY'S PLANT, PORT COLBORNE, ONT.

INTERNATIONAL NICKEL COMPANY'S PLANT FROM SOUTHWEST VIEWPOINT.

Port Colborne Nickel Refinery

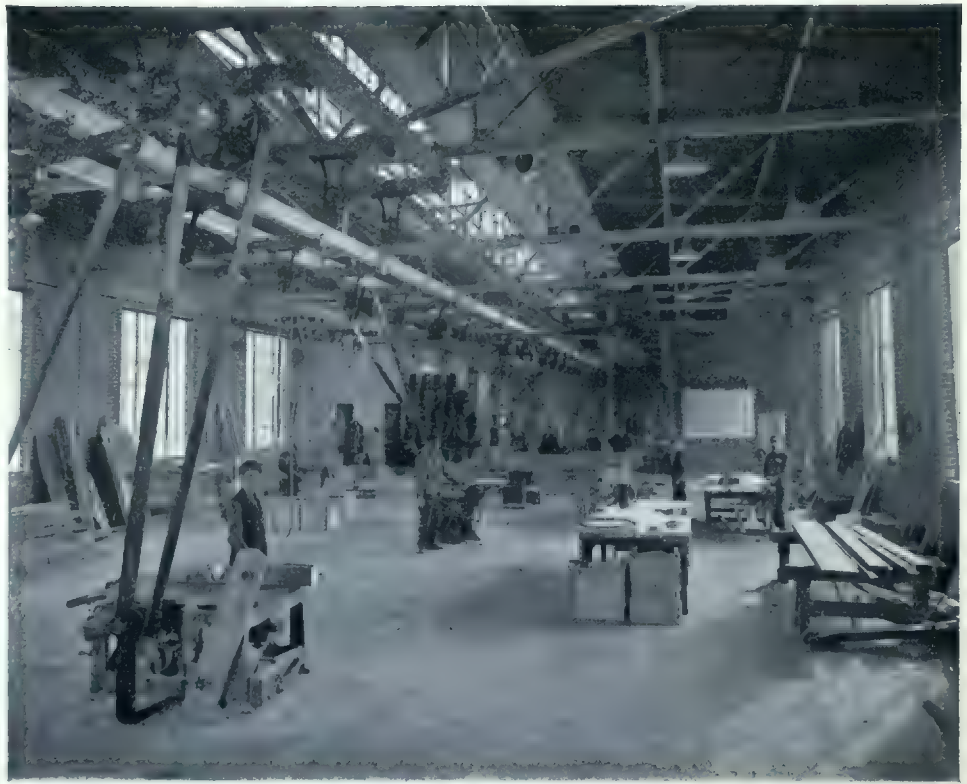
Canada owns the most important nickel mines in the world, but up to a little over a year ago no nickel was refined in this country. Consequently the establishing of the International Nickel Company's plant at Port Colborne, Ont., represents an important industry for the complete development of one of our chief natural resources.

In other words the new refinery involves an economic advantage resulting in the conversion of the raw material into the finished product in Canada where the nickel is produced, besides giving employment to a considerable number of workmen. At the present time a staff of 700 are employed, and about 30,000 lbs. of nickel and considerable copper are turned out daily.

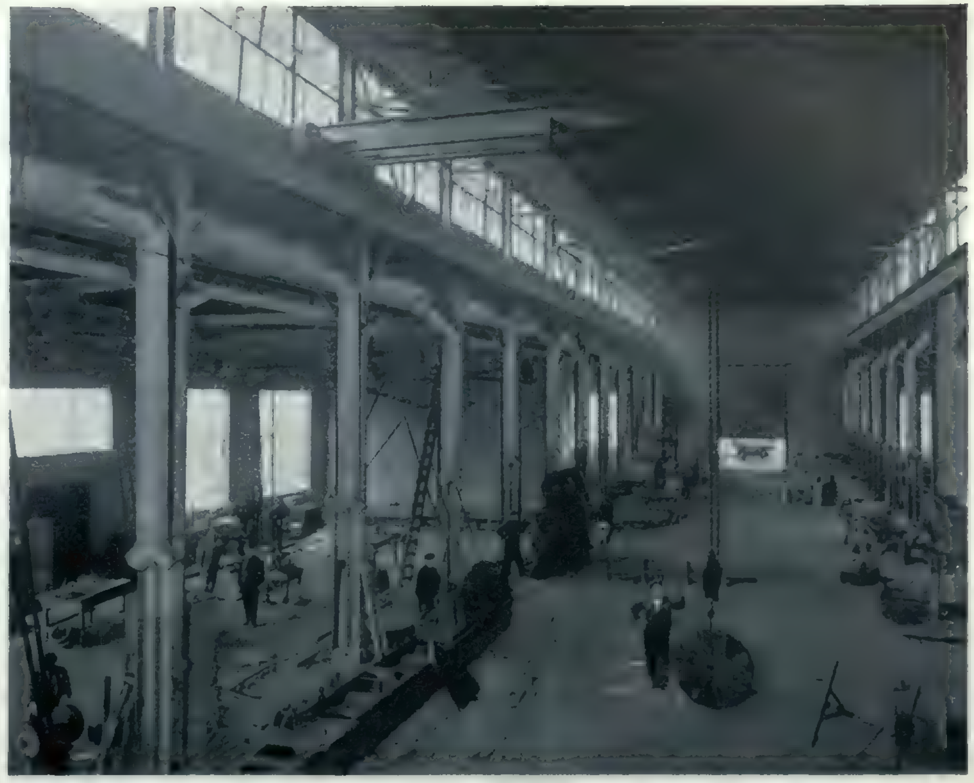
Only a portion of the product of the smelters at Copper Cliff is shipped to Port Colborne for treatment, but eventually the plant will handle the total output from that district instead of any of it being sent to the United States for refining as has been the case up to now. This seems evident from the magnitude of the plant which is so planned as to permit the doubling of the refining capacity in every department.

In addition to the industrial part of the plant which covers twenty-six acres, a number of executive and staff buildings have been provided. These comprise the administration

VIEW OF PLANT FROM NORTHEAST POSITION.



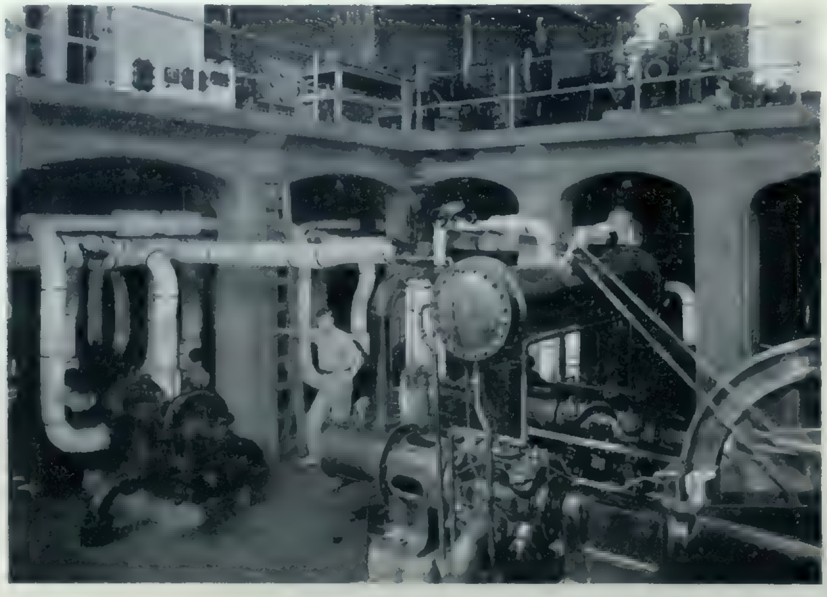
CARPENTER AND COOPERAGE SHOP.



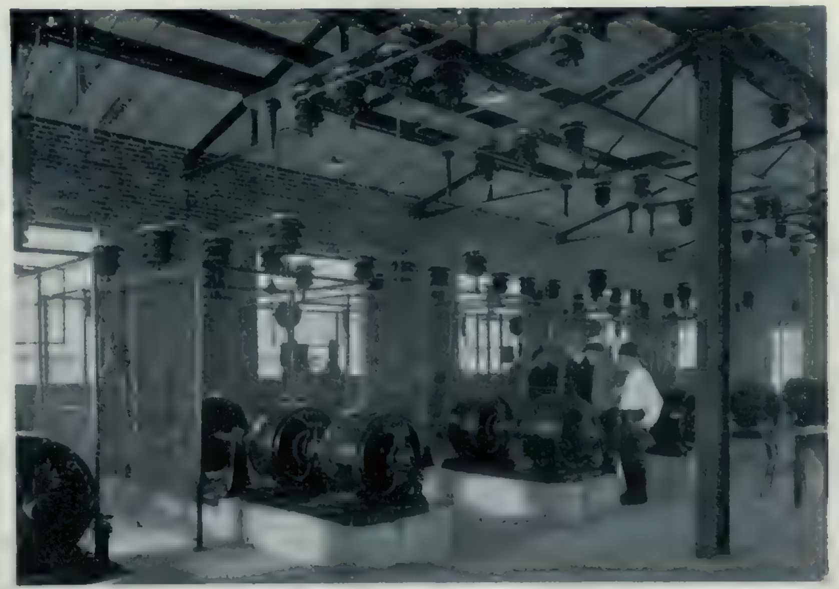
BLACKSMITH AND MACHINE SHOP.

INTERNATIONAL NICKEL COMPANY'S PLANT.

Port Colborne, Ont.



HIGH SPEED TURBO-BLOWERS IN MAIN POWER HOUSE.



POWER HOUSE OF DUST PRECIPITATION PLANT.

CHEMICAL OR ASSAY LABORATORY. INTERNATIONAL NICKEL COMPANY'S PLANT, PORT COLBORNE, ONT. TYPICAL CHANGE HOUSE.

building, hospital, foremen's boarding house and staff club house. The buildings are set back on well-kept lawns on both sides and at the end of a wide street, and are of very creditable design. The company has also provided eight houses of a most desirable type for the accommodation of the executive heads and their families.

The plant itself is of brick, steel and concrete construction, a feature being the large concrete stacks which reach to a lofty height. The various departments are spacious and well ventilated, and the lighting installation throughout is an excellent example of the adapting of artificial light to the requirement of the particular operation carried on within and the consideration of the individual purpose of each building. In the various departments a system of reflectors are used to throw the light where needed, and in several of the shops angle reflectors are placed on the wall so as to be out of the way of shop operation.

◆

Twenty new factories have located in Louisville, Kentucky, during the past two years, due to the activity of the Louisville Foundation, or what is sometimes known as the Million Dollar Factory Fund of that city. The new factories employ altogether three thousand operatives and have an annual pay roll of $2,000,000. Twelve factories were reported for 1917 and eight industries for the year just closed. The factories, it is stated, were acquired by the Foundation at a net expense of fifteen thousand dollars. It is claimed that for every dollar expended the city acquired business transactions bringing in thirteen dollars annually.

BOILER ROOM, SHOWING MECHANICAL STOKERS.

ESTIMATED COST OF BUILDING WORK IN THE YEARS 1910-1918, AS INDICATED BY BUILDING PERMITS ISSUED IN THIRTY-FIVE CITIES.
Compiled by Department of Labor, Ottawa.)

CITY	1910	1911	1912	1913	1914	1915	1916	1917	1918	1918 compared with 1917 Increase (+) Decrease (—)		
										Amount	Per cent	
	$	$	$	$	$	$	$	$	$	$		
1—Nova Scotia	**831,594**	**1,004,958**	**1,209,781**	**1,158,954**	**990,293**	**1,262,087**	**1,348,434**	**1,320,647**	**3,295,635**	+ **1,974,988**	+ **149.56**	—1
2— Halifax	484,040	509,316	555,020	837,766	879,320	1,063,985	1,220,329	904,377	2,866,852	+ 1,962,475	+ 217.00	—2
3— Sydney	347,554	495,642	654,761	321,198	110,973	198,102	128,105	416,270	428,783	+ 12,513	+ 3.01	—3
4—New Brunswick	**469,215**	**645,556**	**659,795**	**2,882,780**	**852,655**	**864,339**	675,980	**870,963**	**498,748**	— **372,215**	— **42.74**	—4
5— Moncton	84,915	82,956	121,845	470,780	337,366	518,064	211,630	339,713	147,425	— 192,288	— 56.60	—5
6— St. John	384,300	562,600	567,950	2,412,000	515,300	346,275	464,350	531,250	351,323	— 179,927	— 33.88	—6
7—Quebec	**20,003,902**	**25,705,190**	**26,672,297**	**34,893,449**	**24,527,591**	**12,267,849**	**9,893,630**	**8,794,149**	**6,852,354**	— **1,941,795**	— **22.08**	—7
8— Montreal-Maisonneuve	16,742,019	22,516,832	22,433,398	29,723,452	2,022,640	8,263,021	5,527,544	5,501,918	4,882,873	— 619,045	— 11.25	—8
9— Quebec	526,498	795,254	933,002	1,939,781	2,759,573	2,576,342	2,912,157	2,459,386	904,375	— 1,555,011	— 63.23	—9
10— Sherbrooke	555,000	920,001	1,100,004	747,450	191,322	354,876	368,830	254,000	150,920	— 103,080	— 40.58	—10
11— Three Rivers	218,400	133,008	372,800	482,450	652,130	484,205	537,345	423,860	638,975	+ 215,115	+ 50.75	—11
12— Westmount	1,961,985	1,340,092	1,833,093	2,000,316	898,165	589,405	544,754	154,985	275,211	+ 120,226	+ 77.57	—12
13—Ontario	**33,603,188**	**39,669,026**	**50,022,468**	**49,474,905**	**28,558,430**	**14,353,828**	**20,229,574**	**17,407,571**	**18,477,012**	+ **1,069,441**	+ **6.14**	—13
14— Brantford	681,030	613,860	1,167,105	1,015,886	435,510	235,606	282,677	287,195	761,500	+ 474,305	+ 165.15	—14
15— Fort William	2,401,525	2,936,785	4,210,285	4,009,565	1,830,866	638,930	400,525	658,445	535,615	— 122,830	— 18.63	—15
16— Guelph	143,700	513,690	395,695	357,335	821,734	219,672	155,222	111,435	83,044	— 28,391	— 25.48	—16
17— Hamilton	2,603,605	4,255,730	5,491,800	5,110,000	3,703,865	1,522,348	2,410,131	2,746,675	2,472,254	— 274,421	— 9.99	—17
18— Kingston	220,092	311,569	642,915	666,474	288,577	244,088	184,321	150,705	318,943	+ 168,238	+ 111.63	—18
19— Kitchener	356,807	372,948	553,523	690,721	728,320	334,404	324,838	205,352	226,062	+ 20,710	+ 10.08	—19
20— London	805,123	1,036,880	1,137,108	1,789,920	1,837,735	1,207,630	928,126	837,890	877,660	+ 39,770	+ 4.75	—20
21— Ottawa	3,022,850	2,997,610	3,621,850	3,991,280	4,397,820	1,605,160	1,530,409	1,041,017	2,635,612	+ 1,594,595	+ 153.18	—21
22— Peterborough	517,958	345,372	865,893	488,240	452,335	97,010	128,040	963,503	241,251	— 712,252	— 74.70	—22
23— Port Arthur	1,006,116	595,180	2,492,554	1,935,575	1,234,085	83,625	1,505,095	1,315,174	610,537	— 734,647	— 54.61	—23
24— Stratford	187,094	99,003	365,831	316,407	440,715	209,800	190,619	449,036	89,786	— 359,250	— 80.00	—24
25— St. Catharines	263,000	265,435	810,435	759,468	782,253	445,981	595,715	79,875	465,727	+ 385,852	+ 483.07	—25
26— St. Thomas	202,000	207,420	67,150	166,146	388,915	134,215	145,865	216,338	53,395	— 162,943	— 75.32	—26
27— Toronto	20,740,498	24,373,949	27,401,761	27,038,913	20,694,288	6,651,889	9,881,671	7,163,556	8,535,331	+ 1,371,775	+ 19.15	—27
28— Windsor	391,990	740,595	1,098,563	1,148,975	1,121,413	722,870	1,508,330	1,161,375	570,305	— 591,070	— 50.89	—28
29—Manitoba	**16,034,738**	**19,258,082**	**21,760,957**	**19,231,259**	**13,240,385**	**1,862,455**	**2,752,173**	**2,392,788**	**2,140,672**	— **252,116**	— **10.54**	—29
30— Brandon	929,288	1,024,532	1,165,207	609,609	395,335	36,155	244,873	180,338	90,022	— 90,316	— 50.08	—30
31— Winnipeg	15,105,450	18,233,550	20,595,750	18,621,650	12,845,050	1,826,300	2,507,300	2,212,450	2,050,650	— 161,800	— 7.31	—31
32—Saskatchewan	**6,240,649**	**12,521,629**	**20,947,160**	**13,007,665**	**2,783,235**	**574,987**	**687,170**	**1,294,659**	**2,177,293**	+ **882,631**	+ **68.17**	—32
33— Moose Jaw	1,071,590	2,431,738	5,275,797	4,535,470	459,860	90,722	318,945	295,460	566,575	+ 271,115	+ 91.76	—33
34— Regina	2,351,288	5,137,615	8,046,238	4,018,350	1,761,875	464,065	222,075	416,460	1,006,000	+ 589,540	+ 141.56	—34
35— Saskatoon	2,817,771	4,952,276	7,625,125	4,453,845	561,500	20,200	146,150	582,739	604,715	+ 21,976	+ 3.77	—35
36—Alberta	**7,750,850**	**16,712,432**	**34,840,639**	**17,862,106**	**8,938,627**	**460,375**	**895,040**	**858,000**	**1,548,270**	+ **690,270**	+ **80.45**	—36
37— Calgary	5,589,594	12,907,638	20,393,820	8,619,653	3,425,350	150,550	663,500	548,200	1,196,800	+ 648,600	+ 118.31	—37
38— Edmonton	2,161,256	3,804,794	14,446,819	9,242,450	5,513,277	309,825	231,540	309,800	351,470	+ 41,670	+ 13.45	—38
39—British Columbia	**15,423,410**	**22,653,517**	**29,090,352**	**15,151,727**	**6,889,765**	**1,920,829**	**3,245,465**	**997,649**	**1,848,289**	+ **850,640**	+ **85.26**	—39
40— New Westminster†	....	1,126,355	1,638,460	958,078	261,629	85,130	85,307	81,515	108,300	+ 26,785	+ 32.86	—40
41— Vancouver	13,150,365	17,501,512	19,374,522	10,423,197	4,484,476	1,593,249	2,989,893	768,255	1,450,229	+ 681,974	+ 88.77	—41
42— Victoria	2,273,045	4,025,650	8,077,370	3,769,555	2,143,660	242,450	170,265	147,879	289,760	+ 141,881	+ 95.94	—42
Total—35 cities	**$100,357,546**	**$138,170,390**	**$185,233,449**	**$153,662,843**	**$96,780,981**	**$33,566,749**	**$39,724,466**	**$33,936,426**	**$36,838,270**	+ **$2,901,844**	+ **8.56**	

†No record is available for New Westminster before 1911.

Building Trades, 1910-1918

Figures compiled by the Department of Labour, Ottawa, show that during the year 1918 there was a slight increase in the volume of employment in the building trades compared with 1917 as indicated by the value of building permits issued in the 35 cities with populations of 15,000 or over. The estimated cost of the building work in these cities in 1918 was $36,838,270 as compared with $33,936,426 in 1917, an increase of $2,901,844, or 8.56 per cent. In the comparative table which accompanies the report and which groups the cities by provinces, increases are shown in all the eight provinces included except New Brunswick, Quebec and Manitoba. The greatest increase, 149 per cent., was shown in Nova Scotia, and substantial increases were also reported in Alberta and British Columbia. Of the larger cities, Halifax, Ottawa and Calgary showed marked increases, Toronto, Vancouver and Victoria also reported increases, and Montreal and Winnipeg reported slight decreases. Of the smaller centres, Brantford, Kingston, St. Catharines, Regina, and Moose Jaw recorded gains as compared with the previous year.

The figures show that the pre-war level of employment in the building trades has been better maintained in Nova Scotia than in any other province. In the years 1915, 1916, 1917 and 1918 the total for the two Nova Scotia cities was higher than in any of the other five years of the record. In New Brunswick, however, the total for 1918 was less than it has been for any year since 1910. In the province of Quebec there has been a steady decline from the high level of 1913. The yearly percentages of decrease for 1914, 1915, 1916, 1917 and 1918 are approximately 28, 50, 20, 10 and 22 per cent.

The total for the 14 Ontario cities fell from $50,000,000 in the record years of 1912 and 1913 to $18,000,000 in 1918. The lowest level was reached in 1915 when there was a falling off of over 60 per cent. from 1914. In 1916 there was an increase of 41 per cent. over 1915, but in 1917 there was a decrease of 14 per cent. over 1916 and in 1918 an increase of only 6 per cent. over 1917. The figures for 1918 show a decrease of 63 per cent. from the record year of 1912 and an increase of 29 per cent. over 1915 when the volume of building permits reached the lowest figure since 1910. In the four western provinces the highest figure was reached in 1912 and the lowest figure in Manitoba, Saskatchewan, and Alberta in 1915, while in British Columbia the lowest figure was reported in 1917. In Manitoba the amount for 1918 shows a decrease of 113 per cent. over 1912 (the record year) and an increase of 15 per cent. over 1915 (the year building permits reached lowest amount.) In Saskatchewan the corresponding decrease and increase amount to 89 per cent. and 279 per cent. In Alberta the decrease is 95 per cent. and the increase over the minimum amount since 1910 is 236 per cent. In British Columbia the decrease from the maximum figure in 1912 is 94 per cent. and the increase over the minimum of 1917 is 85 per cent.

◆

The statistics quoted above are for 35 Canadian cities only and do not include a number of smaller industrial centres such as Welland, Niagara Falls, Woodstock, Chatham, Galt, Owen Sound, Belleville, Brockville, Pembroke, and other growing manufacturing towns. It is safe to estimate that the building operations in the smaller cities and towns not enumerated and in the villages and farming districts, would equal as much, if not more, than the total shown for the 35 urban centres.

Building Prospect 1919

One of the most promising features of the building outlook is the volume of public improvements to be carried out during the present year. Within the past month a very comprehensive program has been announced by the Ontario Government involving an expenditure of $25,000,000 of which $20,000,000 will be devoted to building work alone.

Projects definitely decided upon include new buildings and repairs to the existing Provincial buildings at Toronto cost $658,500, and similar undertakings elsewhere in the Province as follows: Brockville, $76,800; Hamilton, $70,620; Kingston, $110,000; London, $104,500; Mimico, $89,600; Whitby, $482,800; Woodstock, $128,500; Ottawa, $38,550; Normal Schools, London, Hamilton, North Bay, Peterboro and Stratford, $20,200; Belleville, $50,500; Brantford, $71,500; Guelph, $12,100, other expenditures under this classification, $139,460.

New construction and repairs in Northern Ontario districts it is estimated will reach approximately $204,670.

These improvements it is figured will furnish employment for 40,000 men during the summer months, and refer to Ontario alone. They do not take into account the programme of improvements to be carried out by the Dominion Government, which will substantially contribute to further take up the present labor slack due to demobilization.

Besides the $25,000,000 which has been made available for improving the housing conditions, it is the intention of the Federal authorities to proceed with other work of direct benefit to the building trades, including alteration and repairs on an extensive scale to existing government

(*Concluded on page* 63.)

CONSTRUCTION

A · JOURNAL · FOR · THE ARCHITECTURAL
ENGINEERING · AND · CONTRACTING
INTERESTS · OF · CANADA

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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

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Vol. XII Toronto, Feb., 1919 No. 2

Association Work in Canada

Architectural Association work in Canada for several years has been more passive than active. The question is, will it remain so, or will it throw its collective energy and strength in the scale for the benefit of the profession? Along with this it might be asked, do architects mean what they say; are they sincere in the reforms they advocate, and will they support them in the final issue?

For many years both individual practitioners and the provincial associations have protested against the unfair outside competition to which architects in this country have been subjected. At the R.A.I.C. meeting at Montreal it was again an issue, presented by Mr. J. P. Hynes, both from the architect's standpoint and as a question of political importance. It was an issue which changed what promised to be merely a routine session into a period of lively discussion, involving the economic principle that the opportunities for technical practice in Canada should be conserved by the provincial enactment for the manhood of the country, somewhat along the lines of the Illinois Act governing education and registration.

Considering the importance of the question and the extended period in which it has been before the profession, the time has arrived when it must be definitely dealt with. The sentiment of the meeting was fully in accord with Mr. Hynes' views and the matter has been left to the Council to take up with the provincial associations. The extent to which it is given consideration and the measure of action taken will, therefore, indicate to a large extent the real usefulness and effectiveness of existing architectural organizations. If architects are really sincere that they want this condition improved and if they desire to enjoy the opportunities for practice to which they are entitled, then it is strictly up to them to take collective action instead of leaving all the work to a few men in each province. The spirit of the Montreal meeting can profitably be extended to association work in the various provinces, and more discussions and more addresses such as characterized that gathering, would be both of benefit and result in much being accomplished.

Annual Meeting of Toronto Exchange

A resume of the activities of the Toronto Builders during the past years was given in the address of W. E. Dillon, retiring President at the Annual Meeting held on January 20th. Reference was made to the Ottawa Conference which resulted in the formation of the Association of Canadian Building and Construction Industries with which the Exchange has since become affiliated; and also to the interviews with the Government in reference to housing and technical education. During the past year thirty members had been admitted to the Exchange, and the formation of a sewer and paving section and a roofing section were ready to be announced. Mr. Dillon spoke of the benefits to be derived from membership in the Exchange, basing his statement upon the personal experience of his firm. He referred to the keen interest taken in such questions as the Workmen's Compensation Act and Mechanic's Lien Law; and stated that it was the policy of the Exchange to do everything possible to improve labor conditions.

The following officers were elected for 1919: President, A. D. Grant, first vice-president, Walter Davidson; second vice-president, A. H. Dancy; treasurer, Jno. Aldridge; board of directors, M. John V. Gray, C. B. Jackson, J. R. Page, Geo. Stocker, and G. R. Douglas.

Moves to New Offices

Architects Wickson & Gregg, Toronto, have moved their office and draughting rooms from the Kent Building to suite 1112 Temple Building, corner of Bay and Richmond Streets.

London Exchange Elects Officers

The London Builders' Exchange recently held their twenty-first annual meeting at which the following officers were re-elected for the coming year: President, Harry Hayman, 1st Vice-President, L. A. Boss; 2nd Vice-President, E. Gerry; Honorary Secretary, Geo. S. Gould; Treasurer, Thos. A. Jones; Directors; B. Noble, Geo. Hyatt, A. C. Nobbs, John Whittacher, T. R. Wright; Auditors: J. R. Haslett, Geo. Mills; representatives Fair Board, T. A. Jones, Geo. S. Gould; annual convention, Messrs. Dennis, Boss, Gibbons, Willis, McWaine; Alternates, Messrs. Hayman, Pace, Martin, Young and Banks.

President Hayman congratulated the members on their loyal support to the Exchange during the period of the war. He stated that while conditions were not any too good during the past year, he regarded the outlook as most promising and expected to see the development of considerable work during the coming year.

Retain Name and Interest in Firm

The name and interest of the late Isadore Feldman will be retained in connection with the architectural firm of Hynes, Feldman & Watson, Toronto, of which he was a member at the time of his death. This has been announced by Mr. J. P. Hynes, senior partner, who is personally looking after all unfinished business of the deceased. The firm will continue to be known under the above name as heretofore, and Mr. Feldman's partnership will be perpetuated in the interest of his estate.

General Secretary Wanted

General Secretary wanted for the new Association of Canadian Building and Construction Industries. Preference will be given to young men who have had engineering education and construction experience. Good salary to the right man. Headquarters will be Ottawa. Must be good organizer. Send application to President of the Association, 65 Victoria St. Montreal.

Building Prospect 1919

(*Continued from page* 61.)

structures, as well as the erection of certain new buildings. One of the projects announced is a new million dollar cold storage plant to be built in Montreal during the coming summer. Another is a new customs house in Toronto to cost two millions, in connection with which the preparation of the site is to start without delay. The fact that tenders are at present being received for hospital pavilions in British Columbia, and for some of the repairs under consideration, gives evidence that an aggressive policy is being adopted in carrying out these developments.

Other government work will consist of roadway construction involving an expenditure of $25,000,000 on the part of the Dominion Government and five million dollars by the Ontario authorities. The appropriations are distributed so as to benefit practically all sections.

In addition to the foregoing, new buildings are to be erected at the Toronto University, and new schools will be built in various parts of the country. Competitive plans are now being called for the erection of new schools at Toronto which will be followed by other buildings of this type in the near future.

Accepting this as a basis without considering work in the various other provinces, including civic undertakings contemplated by many municipalities together with private projects, it seems safe to predict that the building permits this year will at least double the total of 1918, and that within the next couple of months a much improved condition will be noted in general throughout the Dominion.

CONTRACTORS and SUB-CONTRACTORS

As Supplied by the Architects of Buildings Featured in This Issue.

COSSTRUCTION ON THE INTERNATIONAL SICKEL COMPANY'S BUILDING.

Air Compressors, Canadian Ingersoll-Rand Company, Montreal.
Brick (Plain), Geo. Fridd Company, Hamilton, Ont.
Brick (Fire), Stove-Fuller Company, Cleveland, Ohio.
Brick (Fire), Elk Fire Brick Company, St. Mary's, Penna.
Boilers, Babcock & Wilcox; also Stokers.
Boiler Feed Water Controllers, Williame Gauge Company.
Feed Water Heater, Warren-Webster Company.
Conduits, Northern Electric Company.
Cranes, Northern Crane Works.
Cranes, Dominion Bridge Company.
Cement, Canada Cement Company, Montreal.
Casements and Window Construction, A. B. Ormsby Company.
Concrete Work, Foundation Company.
Electric Wiring and Apparatus, Allen-Bradley Company.
Electric Wiring and Apparatus, Westinghouse Electric Mfg. Co.
Electric Wiring and Apparatus, Northern Electric Company.
Elevators and Hoists, Roelofson Elevator Works.
Fire Doors, A. B. Ormsby Company.
Flooring, J. B. Smith & Sons.
Furring, Canada Metal Company.
Furring, Thos. Robertson & Co.
Glass, Pilkington Bros.
Grilles, Robert Mitchel Company.
Hardware, Canadian Yale & Towne, Ltd.
Fans, B. F. Sturtevant Company.
Heating System for Shops, Canadian Sirocco Company.
Insulation of Piping, etc., Canadian Johns-Manville Company.
Inspection, Dominion Engineering & Inspection Company.
Inspection of Cement, Canadian Inspection & Testing Laboratories.
Lockers, Durand Steel Locker Company.
Marble Gauge Boards, Vermont Marble Company.
Material Tests, Canadian Inspection and Testing Company.
Graphite, Dominion Paint Works.
Plumbing (Bath Fittings), Mott Company, Ltd.
Pumps, Turbine Equipment Company.
Pumps, Fraser & Chalmers.
Plaster (Materials), Alabastine Company.
Plaster (Materials), Ontario Gypsum Mines Company.
Refrigerators, Eureka Refrigerator Company.
Re-inforcement, Burlington Steel Company.
Radiators, American Radiator Works.
Roofing, Philip Carey Company (cement roofing).
Scales, Fairbanks-Morse Company.
Structural Iron and Steel, Dominion Bridge Company.
Terra Cotta, National Fire Proofing Company.
Sash Operators, Daylight & Ventilation Company.
Ventilators, Geo. W. Reed Company.
Valves, Golden-Anderson Valve Specialty Co.
Valves, Jeffrey Manufacturing Company.
Valves, Caffin Valve Company.
Valves, G. W. Hunt Company.
Valves, Darling Bros.
Vitrolite Paint, Imperial Varnish & Color Company.
Contractors (General), The Foundation Company.

CONTRACTORS FOR HOUSES (International Nickel Co., Port Colborne).

Woodwork, Schultz Bros.
Woodwork, J. B. Smith & Sons.
Stone, Geo. Oakley & Sons.

Stone, Queenston Cut Stone Company.
Tile, Canada Glass, Mantles & Tile, Ltd.
Heaters, Spencer Heater Company.
Wall Paper, Murray-Kay Company.

TORONTO HARBOR COMMISSION BUILDING.

General Contractors, Archibald & Holmes.
Bronze Work, Canadian Ornamental Iron Company.
Casements, Trussed Concrete Steel Company.
Electric Fixtures, McDonald & Willson.
Electric Contract, E. F. W. Salisbury.
Elevators, Otis-Fensom Company.
Glass, Trussed Concrete Steel Company.
Hardware, Canada Hardware.
Heating, A. Welch & Son.
Valves and Traps, C. A. Dunham Company.
Radiators, Dominion Radiator Company.
Interior Woodwork, Green Bros.
Marble (Entrance Hall and Stairs), Holdge Marble Company.
Plaster, R. C. Dancy.
Material Tests, Canadian Inspection and Testing Company.
Plaster (Special Spandril), W. J. Hynes.
Plumbing (Contract), A. Welch & Son.
Plumbing (Fixtures), Port Hope Sanitary.
Vault Doors, J. & J. Taylor.
Painting (Vault Floors), Jos. McCausland.
Iron Stairs, Canadian Ornamental Iron Company.
Battleship Linoleum, T. Eaton Company.
Pump Equipment, Canadian Fairbanks-Morse Company, Ltd.
Signals, Dominion Messenger & Signal Company.
Ash Hoist, Herbert Morris Crane & Hoist Company.
Boiler, Gurney Foundry Company.

ISSUING NEW CATALOGUE.

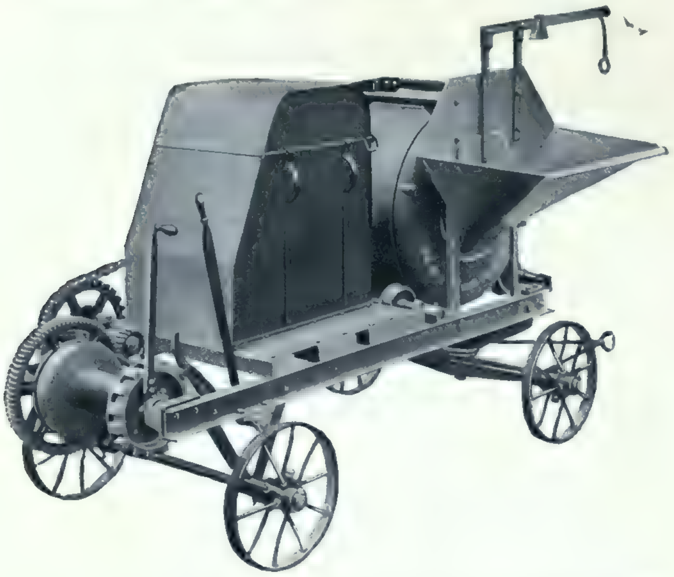
The Mueller Manufacturing Company, Sarnia, Ont., are issuing a new general catalogue comprising three hundred pages on water, gas and steam brass plumbing goods. The catalogue is still in the hands of the printer, but will be ready for distribution within a few weeks.

A NEW COMBINATION MACHINE.

The accompanying illustration shows a new type of machine recently placed on the market by the London Concrete Machinery Co., of London, Ont.

It is a combination machine, two machines in one. A concrete mixer of either four cubic feet or six cubic feet capacity and a hoisting drum of 1,500 or 2,000 pounds capacity are built into one machine, and both are operated with a dust-proof gasoline engine. The hoisting drum or the concrete mixer can be operated separately or together. The motor is of extra large size, giving ample power to run the mixer and to hoist material at the same time.

This type of machine will be welcomed by many contractors whose work is not large enough to warrant the operation of two separate machines on their work.



The concrete mixer is suitable also for such work as building silos, barn walls and bridges, is especially advantageous for laying sidewalks, as the hoisting drum can be used to move the mixer by attaching a cable and operating the hoisting drum. This mixer can be moved 500 feet at a time with its own power.

Bricklayers and masons use this machine to mix their mortar. One man with this machine can mix more mortar than six men can by hand labor, and the same machine can be used to hoist all the material, or to operate a derrick.

This company brought out this combination machine at the request of a large number of prominent contractors, who had work where one outfit of this type would be more suitable.

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The Board of Education, Toronto

Architectural Competition

ARCHITECTS are hereby invited to submit competitive plans and specifications on or before APRIL 1st, 1919, for the JOHN ROSS ROBERTSON PUBLIC SCHOOL to be erected on GLEN GROVE AVENUE, and for a PUBLIC SCHOOL BUILDING, to be erected on GLENHOLME AVENUE.

Conditions of this competition will be furnished on application to the Secretary-Treasurer, Administration Building, 155 College Street, Toronto.

JOHN NOBLE, M.D., Chairman, Property Committee.
W. C. WILKINSON. Secretary-Treasurer.

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CONSTRUCTION

March, 1919 Volume XII, No. 3

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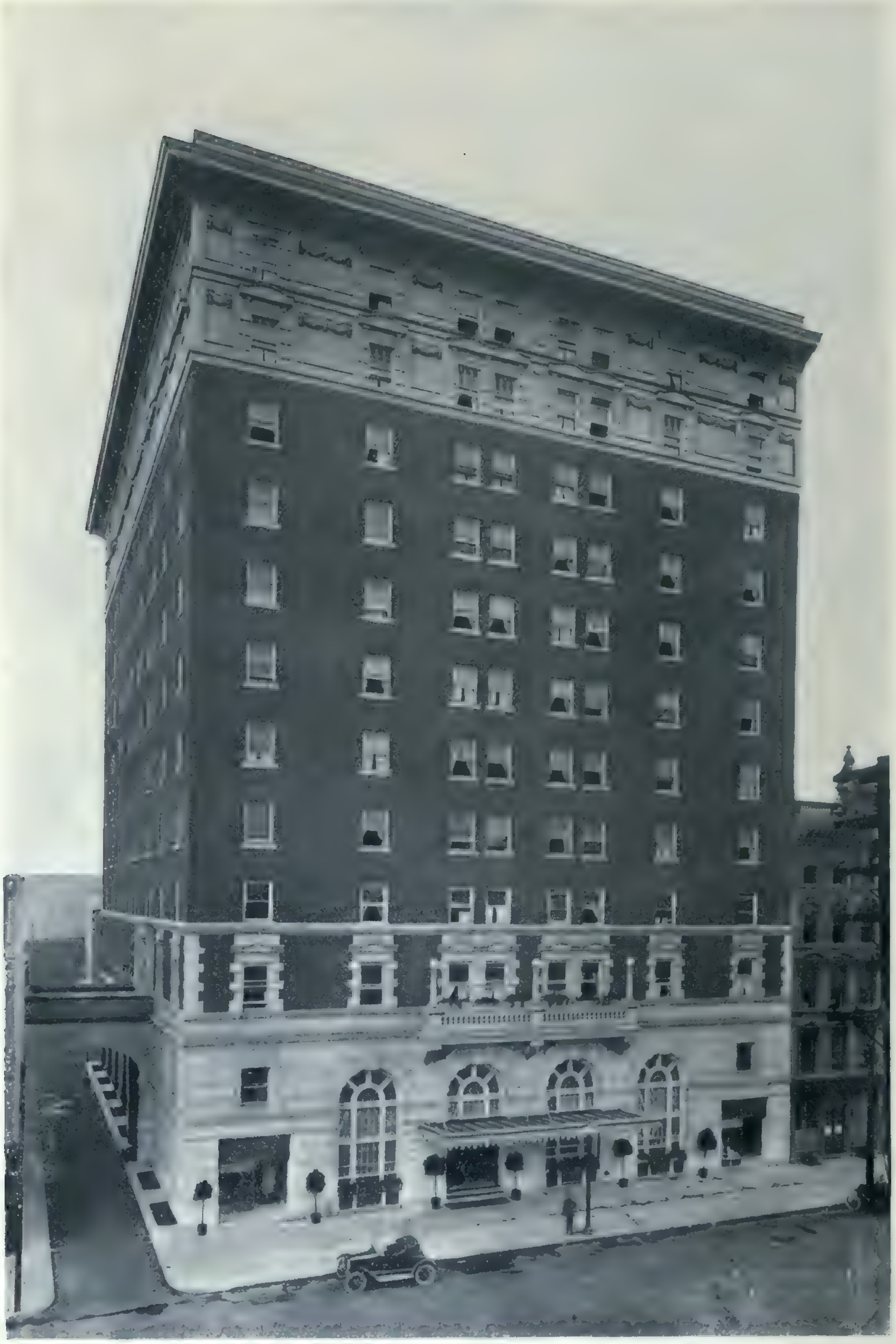


Royal Connaught Hotel, Hamilton, Ont.

Esenwein & Johnson, Architects.

A. W. Peene, Associated.

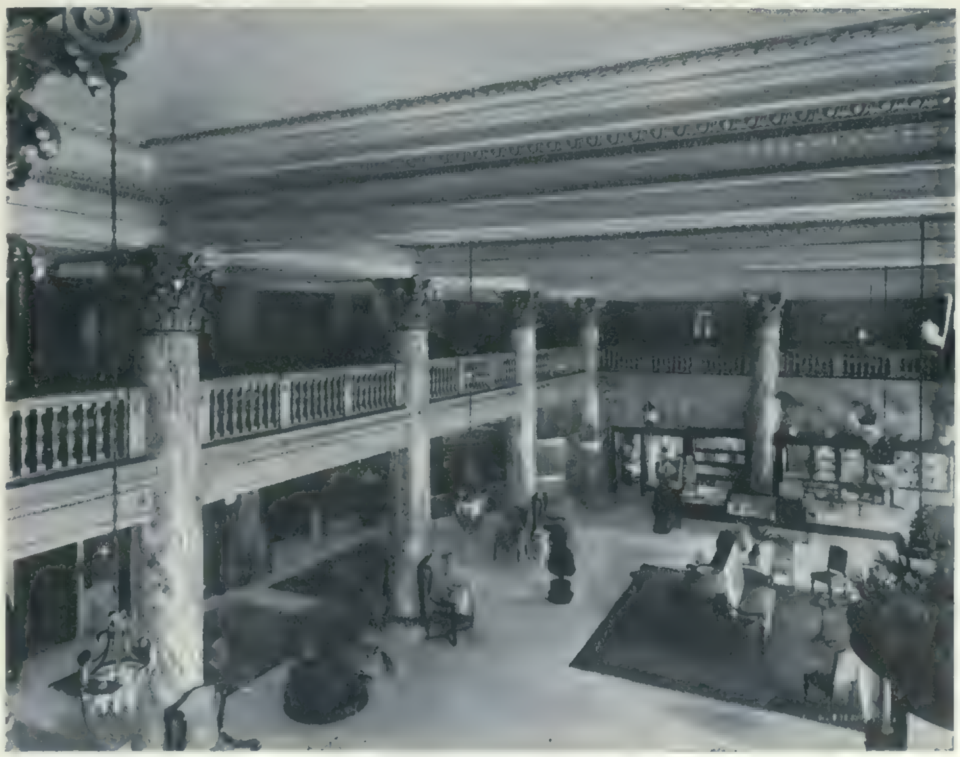
Royal Connaught Hotel, Hamilton, Ont.

THE Royal Connaught Hotel, Hamilton, Ont., was completed in 1916, and represents the most important hotel project carried out in Canada during the war. It is therefore singularly noteworthy as indicating the trend of hotel developments in Canadian cities up to that time, and has more than justified the optimism of its promoters in proceeding with the building during the period mentioned. Located in the centre of the business section, it not only provides a long-felt civic need in the way of modern accommodations for the travelling public, but it expresses a spirit of progress which does credit to the growth and commercial prestige of the city itself.

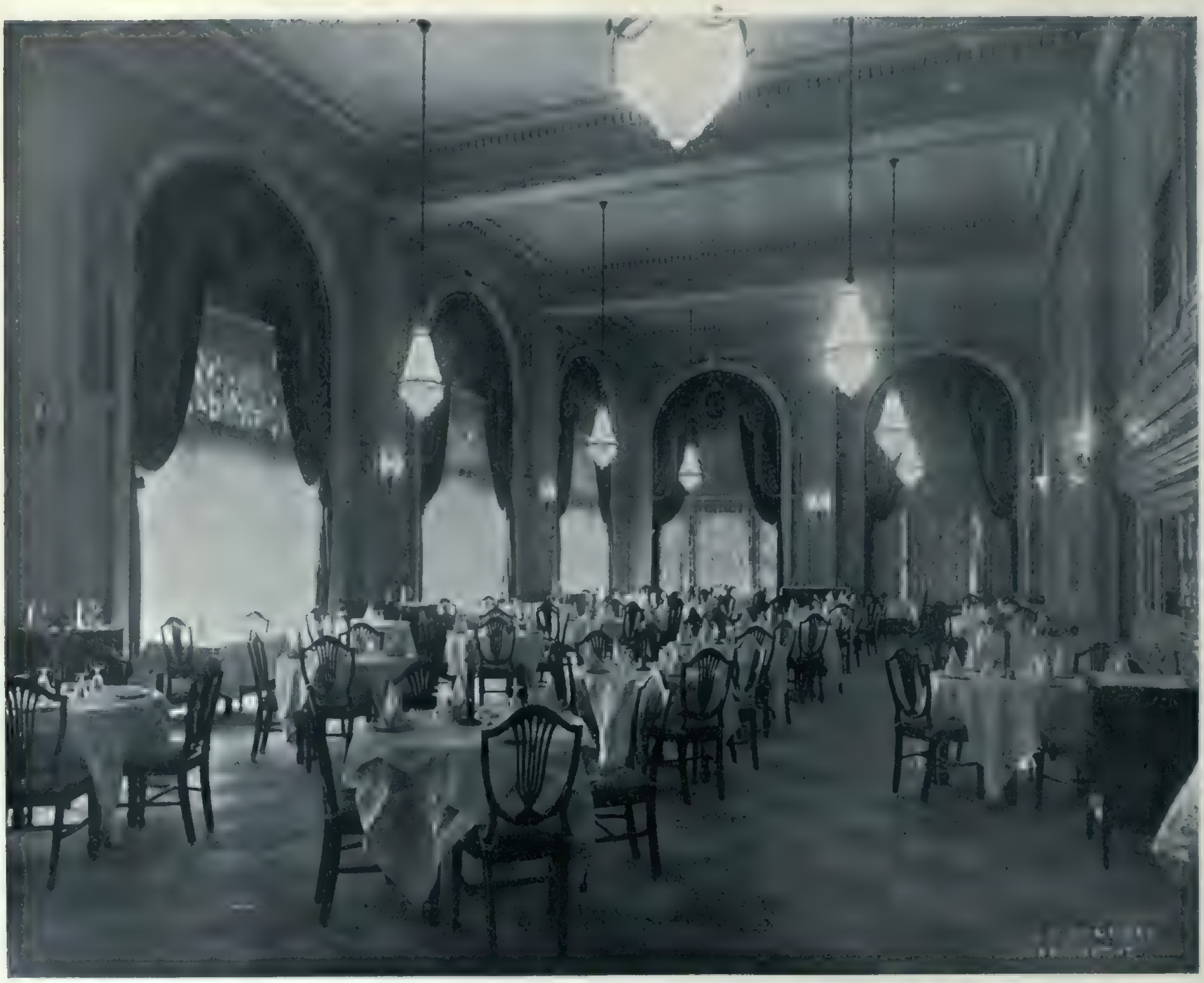
The general scheme divides itself into two parts, consisting of a main structure of twelve stories, 102 x 136 feet, and a two-storey annex, 130 x 63 feet. This annex contains a ballroom and convention hall with stores facing Main street on the floor below. The two units are separated by an alley or lane extending through the property, and are connected by a corridor over the alley and by the basement, which extends through from street to street.

Entrance to the hotel proper is from King street through a vestibule leading into a spacious rotunda finished with marble wainscotting and mahogany trim, and extending to a height of two stories. Heavy columns support a mezzanine gallery which overlooks the public space on all four sides. The ceiling has ornamental plaster beams, and the lighting fixtures and furnishings, consisting of heavily upholstered settees and chairs, together with plants and potted ferns and rich toned rugs, serve to produce a dignified and inviting general effect. On either side at the main floor level are small stores with frontages on the street and connecting directly to the hotel lobby, while at the rear of the rotunda is a large dining room, together with a modern grill and billiard room, which practically completes the accommodation on this floor.

As in all modern buildings of this type, the Royal Connaught is of fireproof character, all parts of the steel skeleton being embedded in



ROTUNDA AND MEZZANINE.



MAIN DINING ROOM, ROYAL CONNAUGHT HOTEL, HAMILTON, ONT.

concrete. The exterior walls are of interlocking tile, faced with Bedford stone up to the second floor, with a rough texture brick above, the two upper stories being finished in architectural terra cotta. The floors are of four-inch concrete reinforced with triangular mesh wire, and designed to carry 150 lbs. per square foot for the main floor and 75 lbs. for all other floors. The partitions throughout are of gypsum blocks, the windows have metal sash, and fire doors open on all floors into an enclosed stairway leading to the lower vestibule.

In addition to the large dining room and the grill on the main floor, private dining rooms are provided on the mezzanine, on which also is located a ladies' retiring room and the manager's office. From this level the connecting corridor leads across the alley to the ballroom, which occupies the second floor of the rear building.

Above the mezzanine level all floors are taken up by bedrooms of which there are over two hundred, averaging twenty-six to each floor. These rooms are equipped with hot and cold running water and individual baths, and are pleasingly decorated with delicate wall patterns, chintz or rep hangings and tapestry upholstered chairs.

Besides the main entrance under the wrought iron marquise on King street, a 25 foot private street leads to a port cochere and the ladies' entrance at the side of the hotel.

The service features of the building are very complete. The main dining room is in Italian Renaissance style, with crystal pendant lights, soft grey and white tile floor, harmonizing decorations, and large circular head windows which accentuate the height of the room and give a feeling of stateliness to the scheme. In the grill room the walls are panelled in quartered oak with a decorated frieze above, the floor being in red quarry tile.

In the basement are located the kitchen and steward's store room, men's toilet, barber shop, help's dining room and lockers; the boilers and engines, fans, refrigerating plant, water heaters, vacuum cleaning machinery, etc., being situated underneath the annex.

Thorough ventilation is assured throughout the building in the installation of a complete system of fans, ducts and registers. The equipment also includes two passenger elevators and two combined freight and service elevators, as

GRILL ROOM, ROYAL CONNAUGHT HOTEL, HAMILTON, ONT.

well as a modern system of house telephones and similar service features.

Special attention has been given to the arrangement of the annex so that the ballroom can be used either from Main street independent of the hotel, or from the hotel by the corridor leading from the mezzanine floor. The scheme of the ballroom is carried out in the Italian Renaissance style, a feature being a large stage at one end. Wardrobe and toilet facilities are also provided, making the ballroom and convention hall a completely integral part in themselves. A servery overlooking the alley, and a modern hotel laundry, are also located in rear building.

◆

Architectural Refinements

Few of us fail to feel real, if unexpressed, satisfaction when we think that we can understand intellectual points better than our fellows, and frequently such a feeling will lead us to accept the more complicated of two explanations as being the correct one. Were it not for this, authorities we might name would be blamed for being unintelligible, rather than admired for their learning. We have often wondered whether considerations of this nature do not apply to many of the conclusions drawn by the scholars and writers who have dealt with the refinements of Greek architecture. We do not question that such refinements exist, but have frequently doubted whether they are the result of elaborate geometric calculation, or whether it is not more reasonable to assume that they arise from aesthetic instinct of a very high order. If we have to build a semi-circular, segmental, or pointed arch, or to draw a circular moulding, it is natural to use compasses, as it is the simplest and readiest way of obtaining what we require. But most of the Greek mouldings are described as being hyperbolic, parabolic, or elliptical in section, and there are no easy means of producing them. In the case of the echinus of a Greek Doric capital, is it not reasonable to suppose that an artist drew the curve out by hand, and that it might, when checked by careful measurement, be found to approximate almost exactly to a definite conic outline? And again, the curvature of the steps and entablatures of a temple are so exceedingly slight that they are likely to appear, on meas-

BALL ROOM, ROYAL CONNAUGHT HOTEL, HAMILTON, ONT.

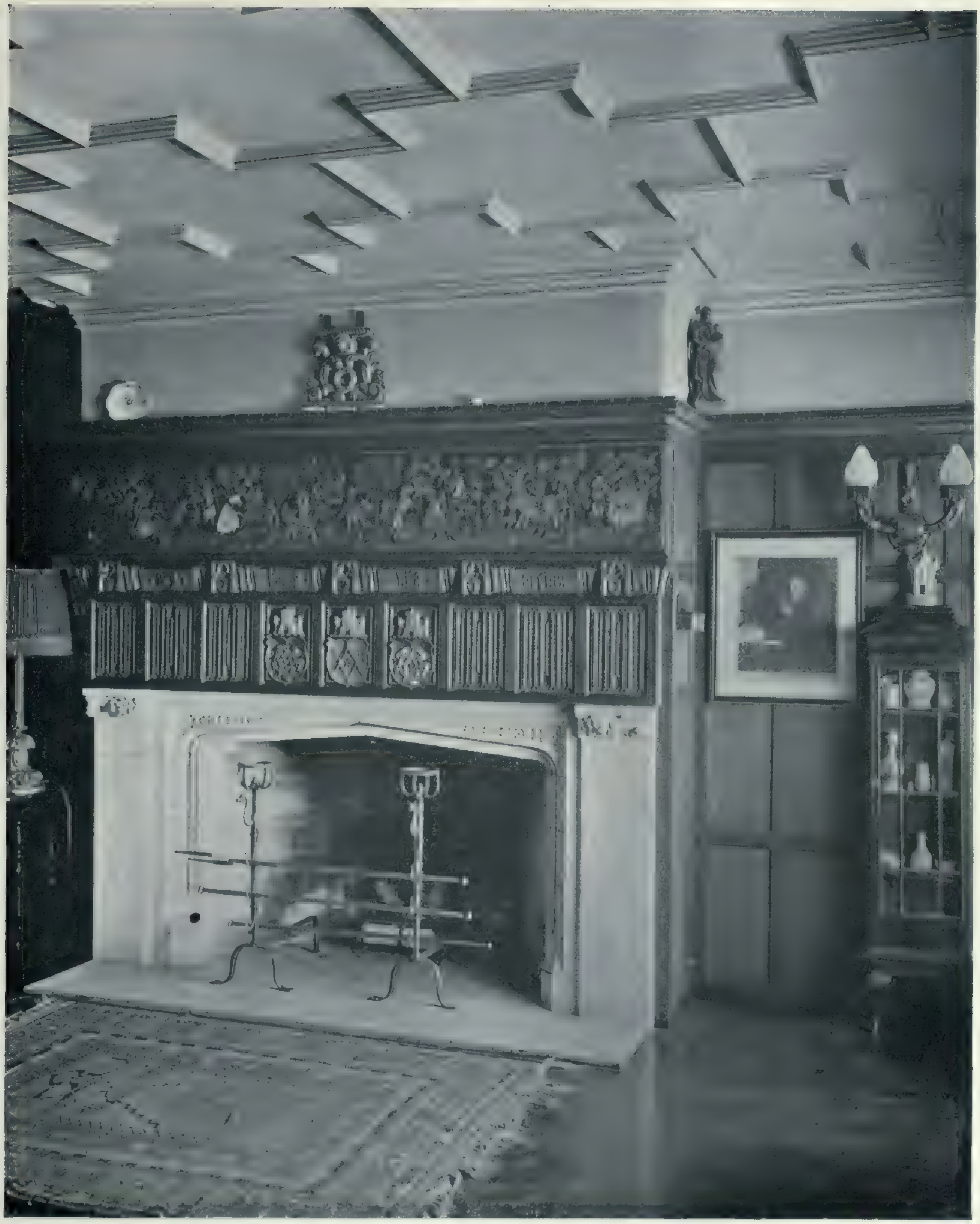
urement, to be reducible to some subtle geometric curve, when in reality they may have been arrived at by far simpler means. Does it seem quite probable that men who possessed the æsthetic insight of the Greeks would have felt it necessary to adopt the elaborate geometrical setting out which we attribute to them? The alternative theory is that the Greeks may have arrived at the results we have discovered without employing the means we attribute to them, but that it is natural that careful measurement should fail to discover deviations sufficient to upset the solution, adopted as being the result of discovery. If we were setting up an ellipse many feet long it would be natural to employ mechanical means of ensuring absolute accuracy. When drawing a small one, it would be equally natural to rely on our eye alone, nor is it likely that close measurement would be sufficient to show that we had been inaccurate in our setting out.

As it is, the accepted theories seem to imply an amalgamation of the methods of a scientist tracing the path of a comet through space with the most profound æsthetic sense ever possessed by man—a combination which seems *prima facie* an unnatural one. We should much like to know what the mathematical laws of chances are for or against such coincidences, and the conclusions arrived would probably prove or disprove the theories which we are possibly too inclined to accept because they are ingenious and, at first sight, improbable.

The evidences of mediæval refinements and irregularities rest on a basis of slighter investigation at present, but at the same time they seem to be more intrinsically probable, since it is only necessary to assume that they are efforts to convert impressions found by experience, and do not involve the employment of delicate geometric means. Whether they will finally be accepted by all, as they are by some, as proved facts, does not alter the possibility that they may be the means of giving additional beauty, or interest, to some of our modern buildings. It will probably be easier to prove whether this is so by actual experiment than it would be to establish their employment in the buildings of

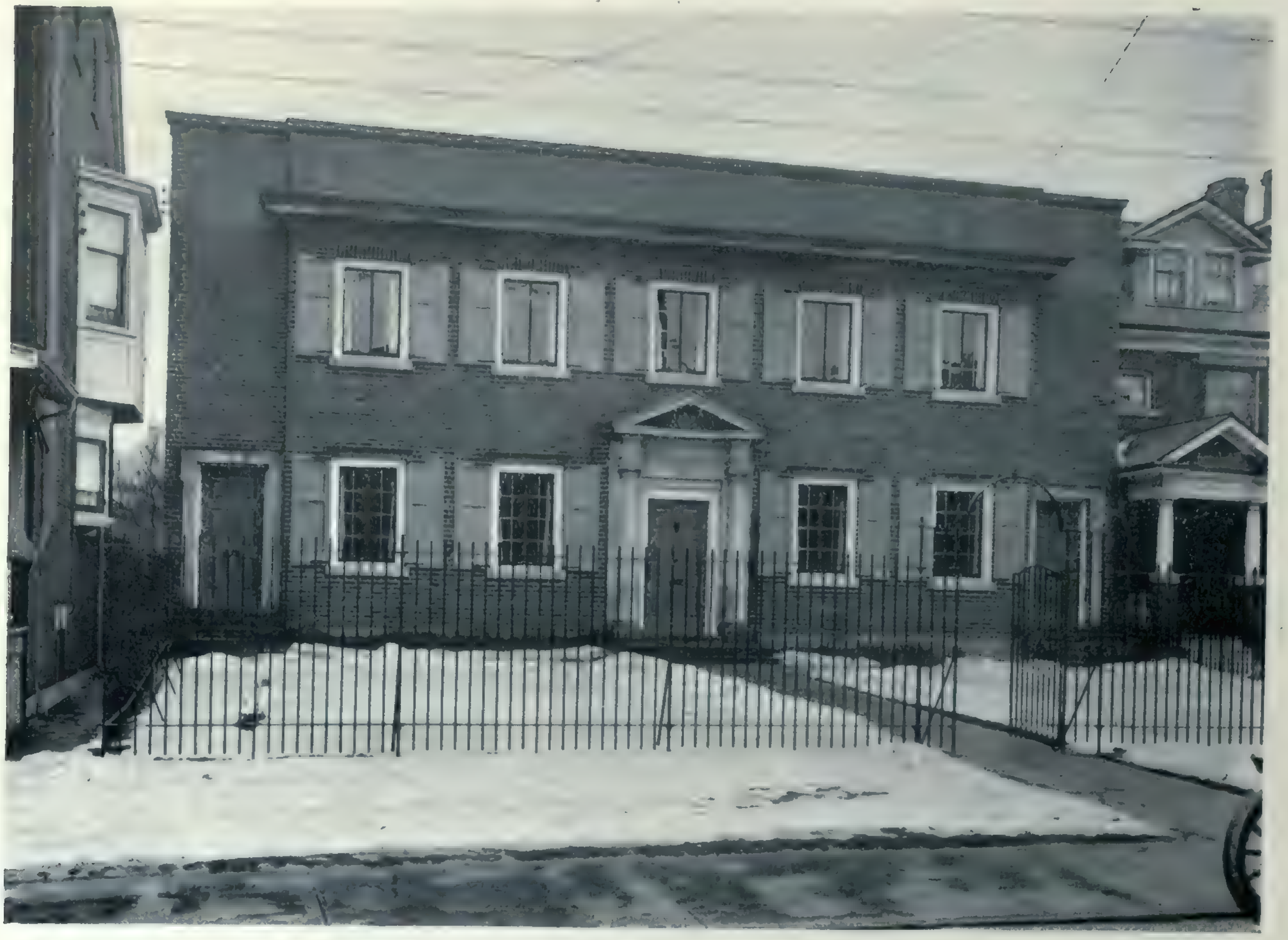
(Concluded on page 94.)

TYPICAL BED ROOM, ROYAL CONNAUGHT HOTEL, HAMILTON, ONT.



FIREPLACE IN LIBRARY.

OFFICES
MESSRS. SPROATT AND ROLPH,
ARCHITECTS, TORONTO



OFFICES OF MESSRS. SPROATT & ROLPH, ARCHITECTS, TORONTO.

Offices of Messrs. Sproatt & Rolph, Architects, Toronto

There are two ways in which a building may be rendered conspicuous. It may be made so by blatant vulgarity or on the other hand it may catch the eyes of the passer by on account of its restraint and modesty.

The first method is alas, only too common, and the latter unfortunately rare, but the building illustrated herewith, No. 36 North Street, the offices of Messrs. Sproatt & Rolph, Architects, is an excellent example of it. The fact that the building is set back from the ground line and that its forecourt is enclosed by a high iron railing emphasizes the charming simplicity and restraint of the design in which all the qualities which go to make architecture, to wit, colour, texture, and form, have all been considered.

The building is designed in the Georgian style and shows traces both of the old country origin of that style and of that phase of it generally called Colonial. The arrangement of the interior may be seen from the plan, and it is in keeping with the exterior, with one exception, and that a notable one. The library has been designed in the Tudor style, and with its oak panelled walls and bookcases, molded plaster ceiling, and cut stone fireplace, and mullioned window with lead lights, forms a very interesting example of that style adapted to modern needs.

Another feature of the building which might be noted is the size and ample lighting of the large draughting room, which is duplicated to a similar extent on the floor above.

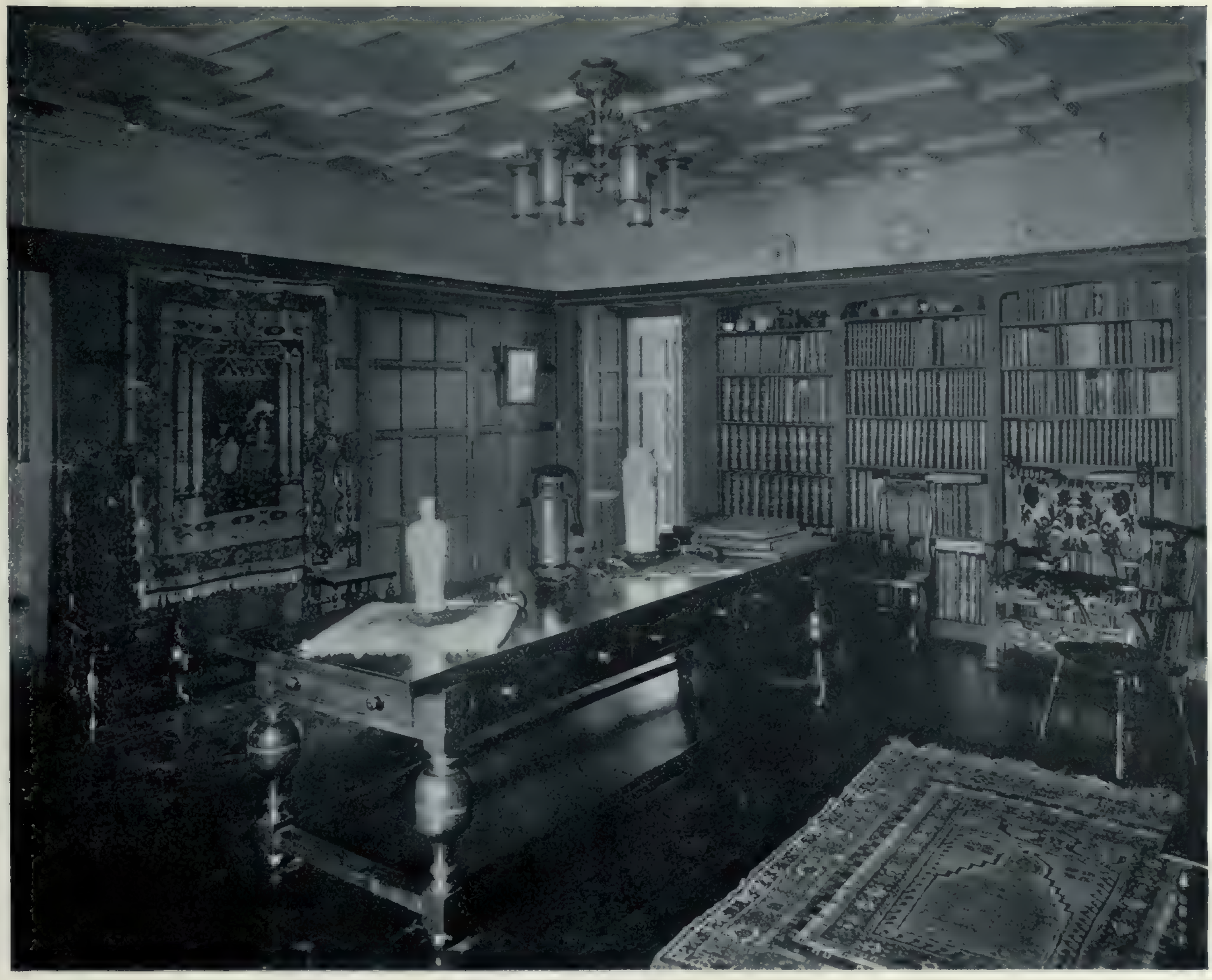
A. Colpoys Wood.

◆

Placing Responsibility for Safe Building Construction

At the fifth annual meeting of the Building Officials' Conference, just held at Pittsburgh, the chief topic of discussion was the placing of responsibility for safe building construction and a proper compliance with laws and ordinances. Agreement that effort should be made to place that responsibility took the form of a resolution, which follows:

"That it is the sense of the Building Officials' Conference that for the better protection of the public against unsafe and illegal building construction suitable legislation should be



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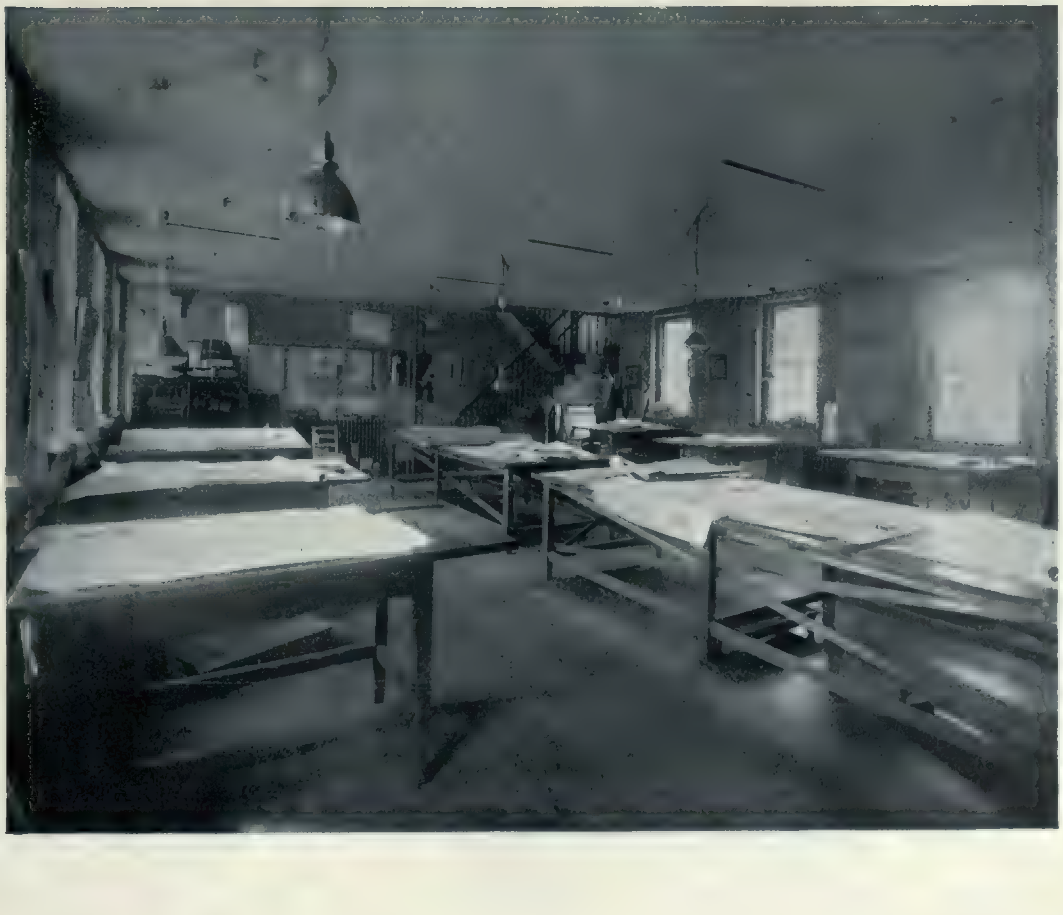


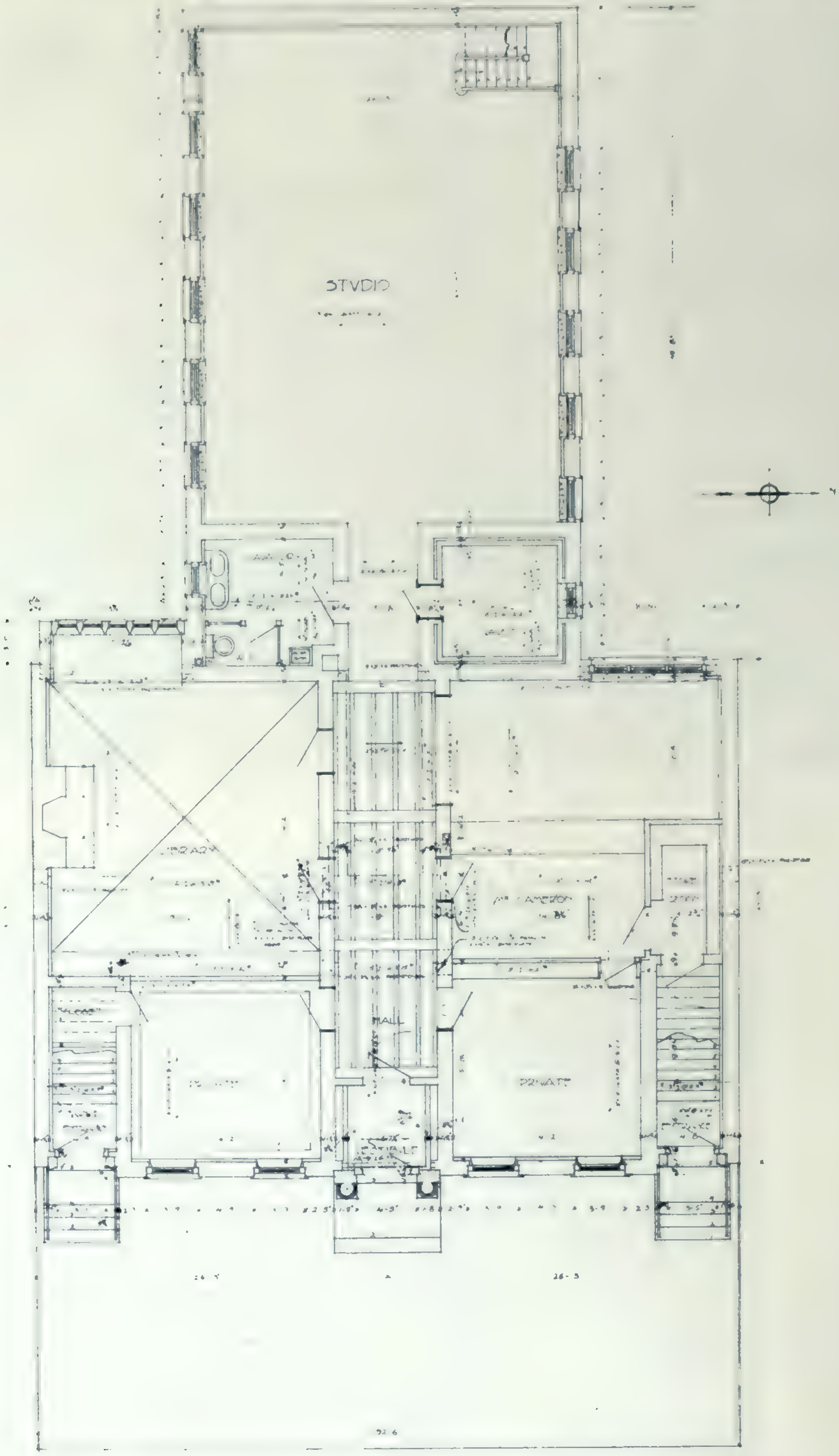
OFFICES OF
MESSRS.
SPROATT AND ROLPH,
ARCHITECTS, TORONTO

DRAFTING ROOM.

enacted by which building operations shall be restricted to architects, engineers, builders, superintendents of construction or others who have by proper evidence shown their ability or capacity for undertaking such building operations, and on whom individual responsibility for presentation to legislative bodies in support of such legislation.''

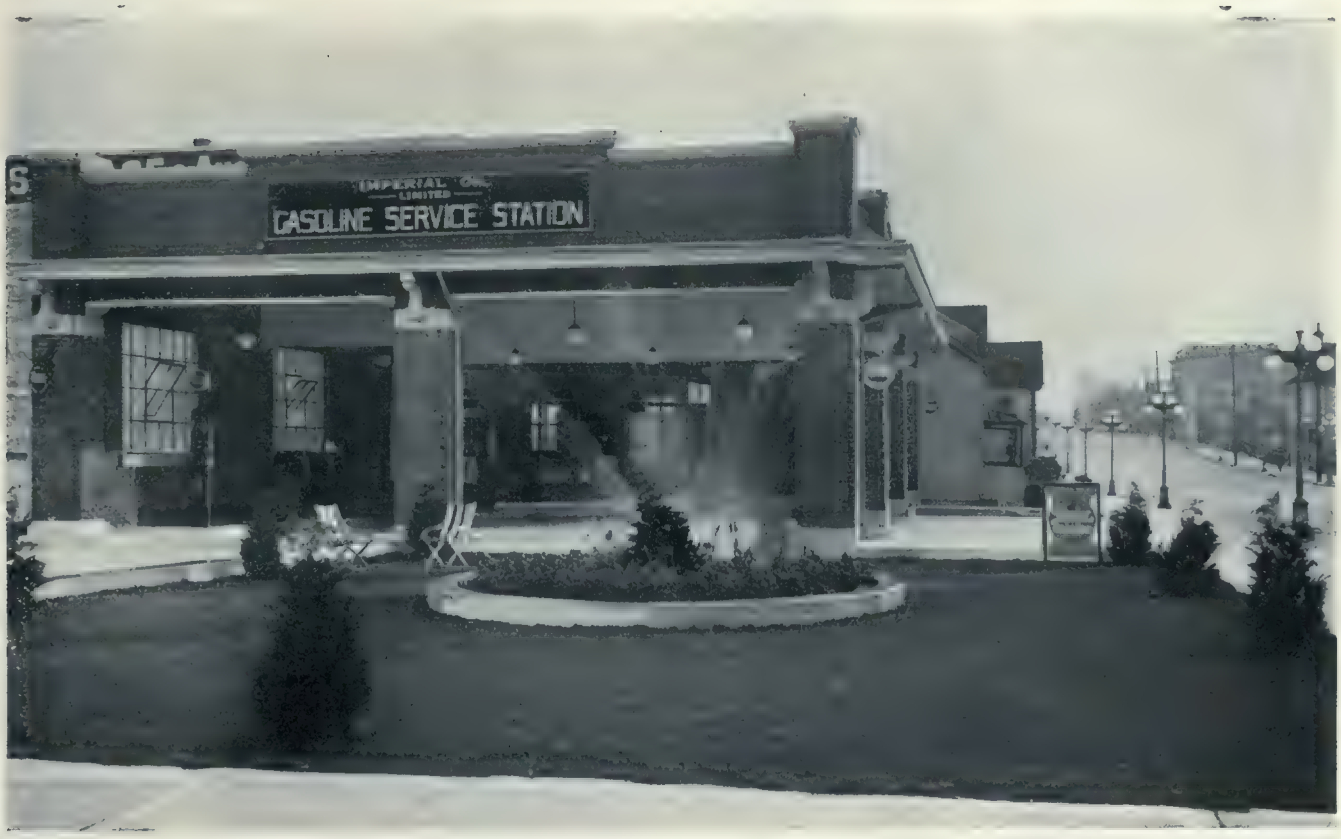
''It was further resolved, that the secretary of this organization be directed to furnish, at any member, copies of this resolution for the safe prosecution of the work and a compliance with the laws relating to buildings can be placed.

A joint session of the Conference and the National Brick Manufacturers' Association met in Pittsburgh at the same time. The topic of discussion was brick work, and centred principally around a paper presented by City Architect W. W. Pearse, of Toronto, Canada, on certain tests of bricks and brick piers. Other interesting features of the meeting were a fire test on a concrete column made at the Bureau of Standards.



OFFICES OF MESSRS. SPROATT AND ROLPH, ARCHITECTS

NORTH STREET, TORONTO

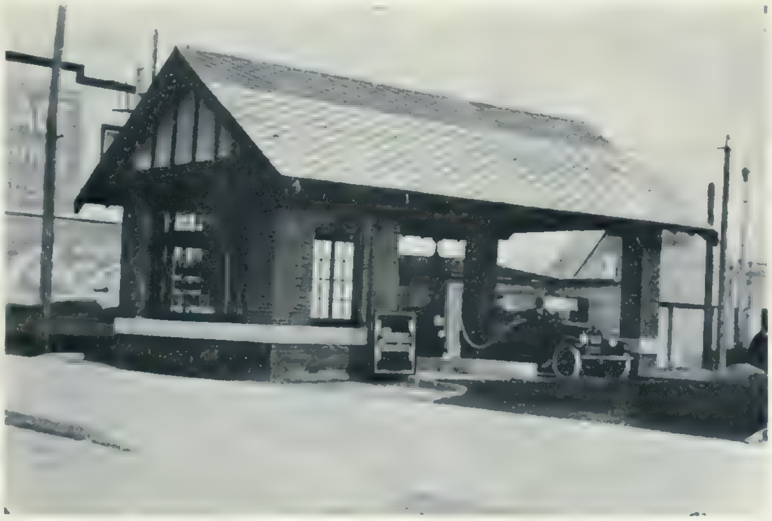


SERVICE STATION, IMPERIAL OIL COMPANY, VICTORIA, B.C., J. L. HAVILL, ARCHITECT.

Gasoline Service Stations

The gasoline service station as an architectural entity, considered apart from the public garage and supply and accessory house, is something comparatively recent. Yet in the short time since it has put in its appearance it has multiplied rapidly in number, marking cardinal points on the routes of travel in the principal towns and cities where motorists can replenish their supply of gasoline and lubricating oils and refill deflated tires.

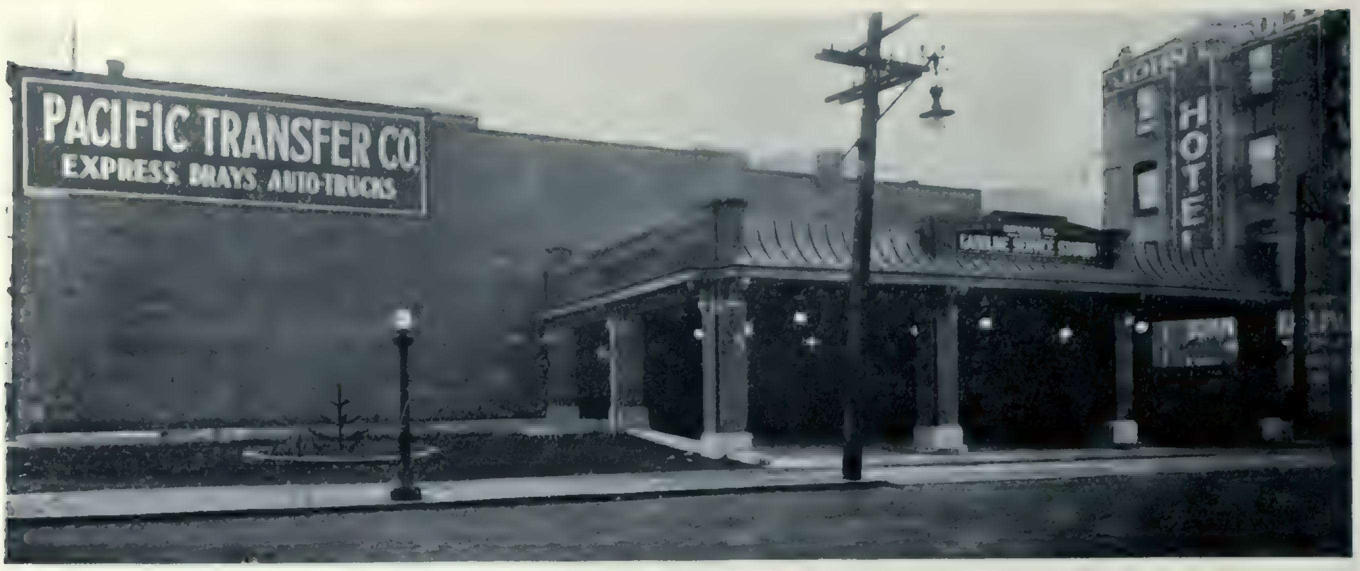
Serving a special purpose it is likewise becoming a special subject for architectural consideration, and in many of the service stations now being erected there are unmistakable indications which show the development of a unique and desirable type of building. This is seen mainly in the exterior treatment rather than in the plan which in many cases is dictated by an "in" and "out" concrete drive forming a passageway for motor cars on either side of the service pumps and protected by a roof above. In some instances the driveway extends through from street to street, and in other cases follows a curvilinear plan whereby the cars enter and leave the building by the same thoroughfare. Lamp standards, as a rule, are placed at intervals along the approach, and grass plots and flower beds are developed whenever the conditions of the site permit, to give the building an attractive setting.



SERVICE STATION, LETHBRIDGE, ALTA. J. L. HAVILL, ARCHITECT.

In addition to the covered passageway and the pumps, the accommodation provides an office for the attendants, and windows for display purposes, and separate lavatories for both sexes. The gasoline storage tanks are installed beneath the floor area where provision is also made for a steam plant for heating and service purposes.

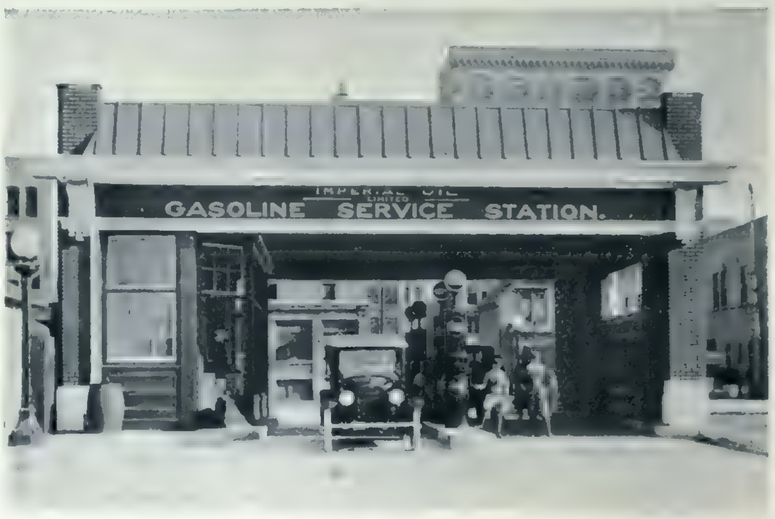
The several subjects illustrated, relating to structures erected by the Imperial Oil Company, are quite typical of the character of service stations being established in Canada, and show the adaptation of similarly designed



SERVICE STATION, IMPERIAL OIL COMPANY, VANCOUVER, B.C. J. L. HAVILL, ARCHITECT.

buildings to meet the physical differences of various sites.

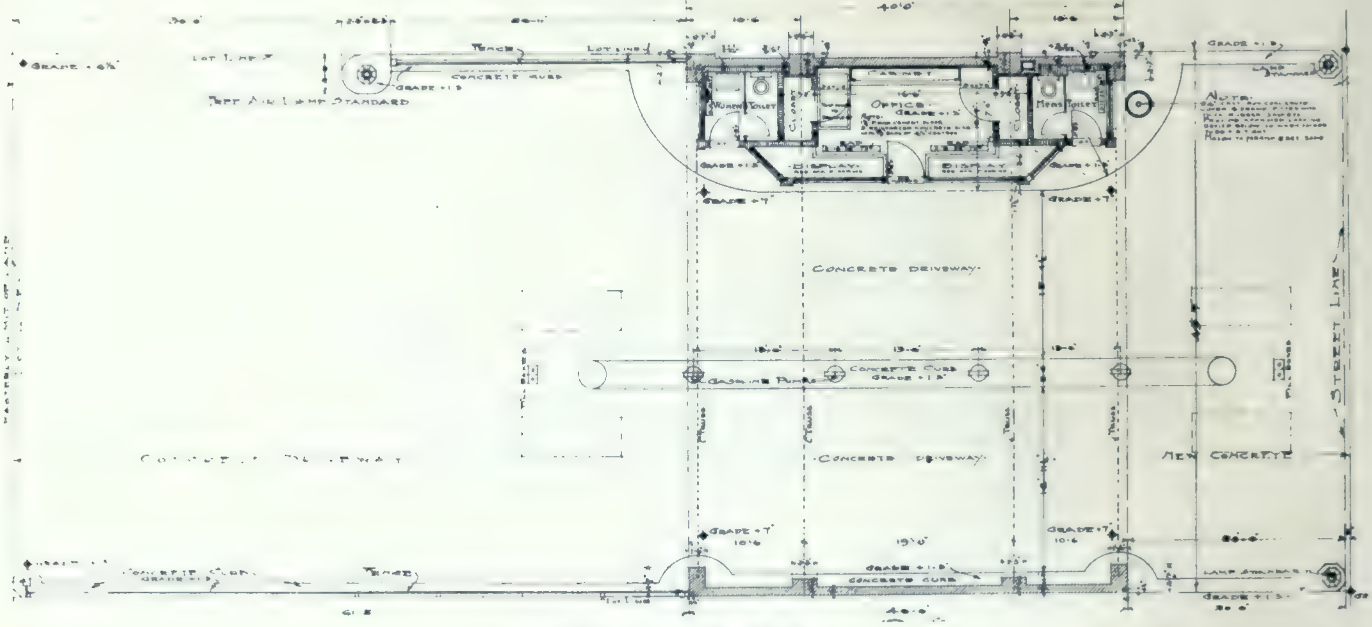
The service station at East Liberty, Pittsburg, constitutes an attractive example of a building forming the central feature of a large square. The design is executed in architectural terra cotta, which is also used for enclosing the various pumps and the low walls and lamp standards surrounding the property, thus making the scheme one of civic importance and suggesting ultimate possibilities in that direction.



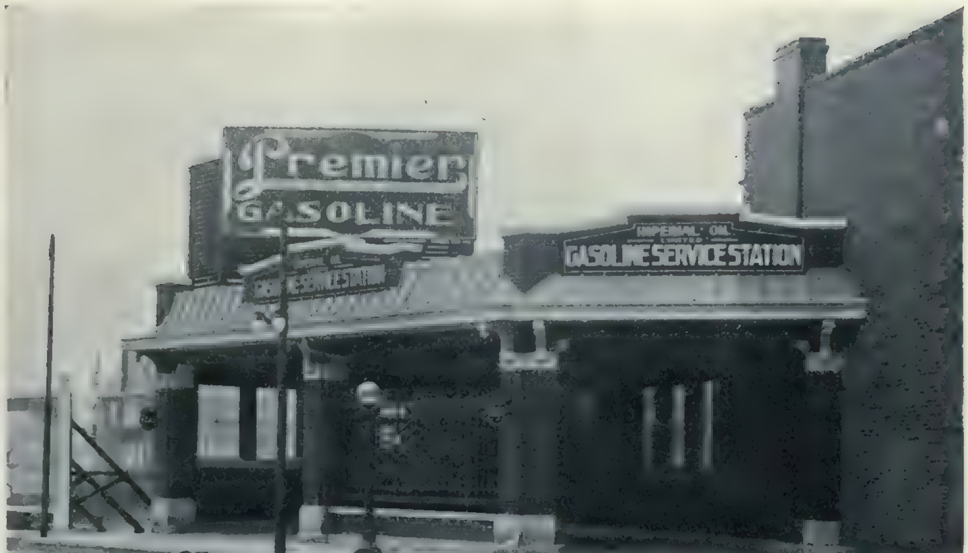
SERVICE STATION, WINNIPEG, MAN. J. L. HAVILL, ARCHITECT.

Elimination of Waste Due to Building Codes

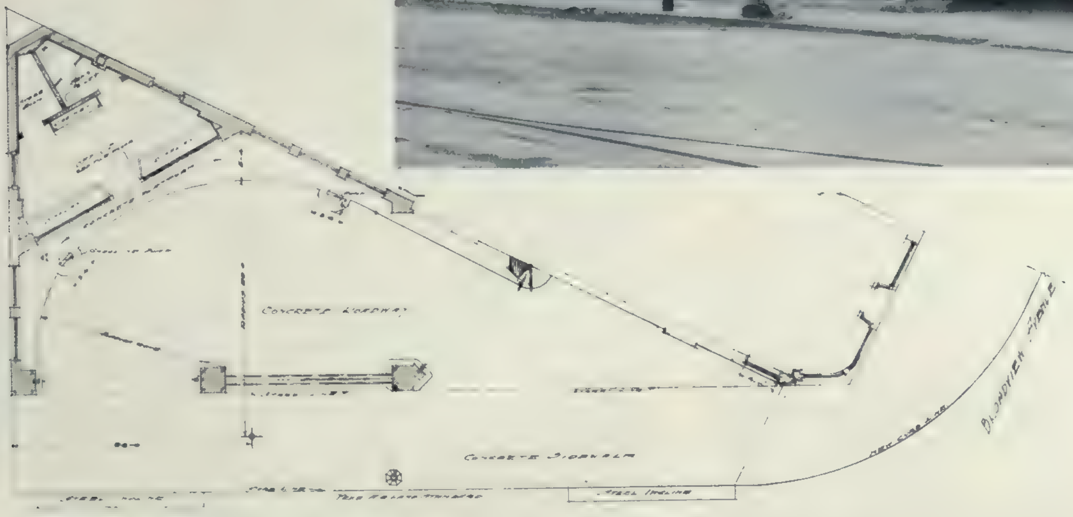
Probably the most tremendous waste in building construction, says the "American Architect," is involuntary and due to laws regulating building construction, existing in the form of state and municipal codes, regulations of factory and labor commissions and in some cases fire prevention bureaus. All persons who are interested in building construction, must ex-



PLAN OF WINNIPEG SERVICE STATION.



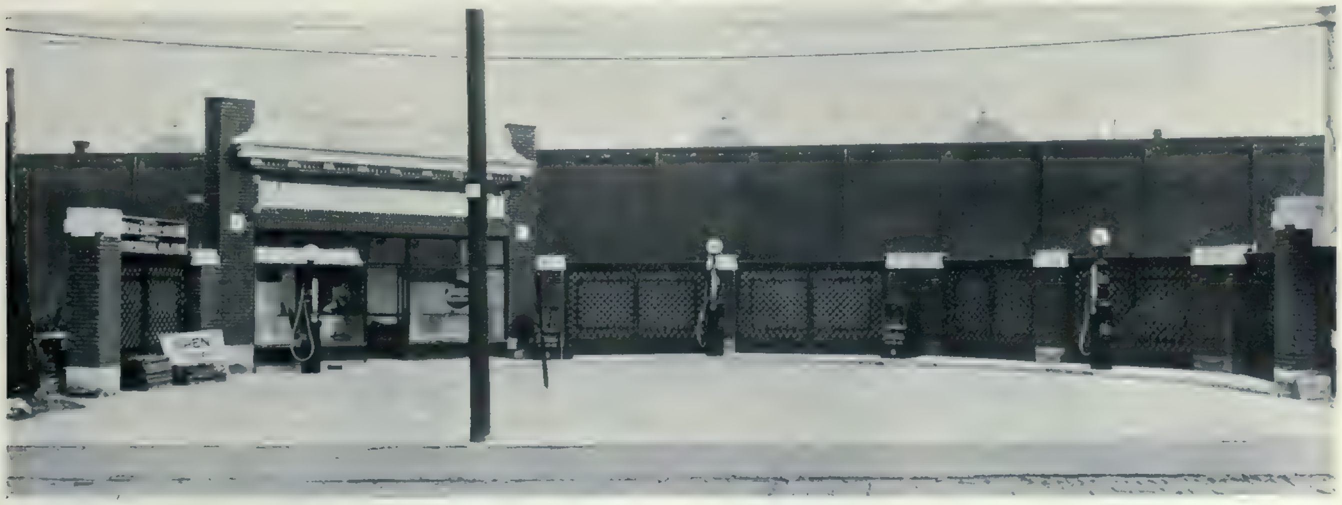
GASOLINE SERVICE STATION IMPERIAL OIL COMPANY, BROADVIEW AND DANFORTH AVE., TORONTO, ONT.



J. L. HAVILL, ARCHITECT.

ert their utmost efforts to correct, at this present time, these involuntary wastes.

The preparation and enactment of building codes is generally a slow process, being usually in the hands of commissons or committees appointed for that purpose. The personnel of these committees is often unfortunate, being dictated by political or private interests or composed of too many honest and well intentioned persons whose competency, based on broad experience and real practical knowledge, is questionable. Observation shows that the enacting bodies are always ready to adopt the conclusions of such committees promptly and expeditiously and without question. It then follows that such committees should be composed of a limited number of active and successful men who are compelled, by the demands of their other activities, to work quickly and reduce the code to a minimum in scope and size. With the experience in these matters which has been had, there is no reason why such a committee should not



SERVICE STATION, IMPERIAL OIL COMPANY, SUNNYSIDE, TORONTO. J. L. HAVILL, ARCHITECT.

SERVICE STATION, IMPERIAL OIL COMPANY, YONGE & ROXBOROUGH STREETS, TORONTO. J. L. HAVILL, ARCHITECT.

formulate a code in three months if the work was handled with the same expedition that obtains in any successful private enterprise. These things can be done if the desire so to do is present.

The code should contain only the minimum requirements that are necessary to insure that a building is structurally safe and sanitary, with adequate provision for fire-prevention and safety to life. Following antiquated precedents, most codes are specifications in effect, long winded and often contradictory in their provisions. It seems ridiculous that a law should describe, in minute and verbose detail, how mortar should be mixed or shingles laid. These things are within the province of the architect's activities and belong in his plans and specifications which are always subject to the approval of the building departments.

A doctor studies medicine, serves as an interne and is finally licensed to practice in a legal manner—but the law does not state in detail just how he shall perform an operation or write a prescription. Note the rapid advances in the practice of medicine and surgery. On the other hand, building codes apparently are made on the hypothesis that architects and engineers are absolutely incompetent to direct their work without minute legal restrictions covering every detail of a structure. And this in the face of the inspection of plans and specification by building departments and inspection of the work as it is constructed.

A code should be so made that it can be revised as fast as progress in building construction takes place. This is best accomplished by a body authorized to perform this function, similar to the Board of Standards and Appeals in New York City or the Commissions that govern many American cities.

SERVICE STATION AT EAST LIBERTY, PITTSBURG, PA.

When the art of constructing with reinforced concrete was in its infancy in this country, there were no codes regulating such undertakings. Under these conditions many buildings were erected two and three stories high and were later increased to five and six stories in height. The initial designs were made in the light of the then available knowledge and the buildings were well built. The cities in which these buildings stand

(*Concluded on page 92.*)

Post-War Housing

Address delivered by Mr. Thomas Adams, Town Planning Adviser to the Commission of Conservation, Ottawa, before the Royal Architectural Institute of Canada.

IT is unfortunate that Mr. Whittaker, who is a very close friend of mine, and an able speaker on the subject, and who could inform you so well as to what is being done in the United States, has found it impossible to be present. I am sure we have missed a treat, but I hope that on some future occasion he will be able to fulfil his offer to come to speak to you, because you will find he has something very important to say which will interest you as Canadians and as architects.

The question of post-war housing, on which we were expected to jointly address you, is one which has an entirely different character in the United States from what it has in Canada, and as Mr. Whittaker is not here, I may just allude to that difference.

When the United States entered the war they found it would be necessary to build a large number of houses in order to accommodate the men who were engaged in shipbuilding plants and munition plants at Bethlehem and other places where it was desirable to increase the output of munitions, and last year they passed an appropriation of $190,000,000 for the purpose of providing housing accommodation in those various places where ships were being built and munitions were being manufactured.

I was in Washington for a week, at the request of the Secretary of Labor, conferring with Mr. Olmstead, the Town Planning Advisor of that Department, and numerous architects, including Mr. Russell and other men whose names would be familiar to you, on the question of their policy, and I know some of the programme which they endeavored to carry out.

So far as the housing part of that programme was concerned, it was, unfortunately, brought to a premature conclusion before they were able to carry it to success. The war being concluded, and most of the houses being uncompleted, they were unable to give that finishing touch to their schemes which would have shown the extent to which the organization and architectural control and Government assistance would have helped to provide object lessons in the way of model housing schemes throughout the United States. However, they carried out several schemes very successfully, including Yorkshire, and Portsmouth, near Boston, and other communities which have been created directly for the purposes of war.

The stimulus which was given to the United States Government in connection with that policy came from Great Britain. Mr. Ackerman accompanied me in point of time, although on a different boat, from this side to Great Britain, in October, 1917, in order to investigate what was being done there; and we came back within two days of each other, and arrived on this side, having covered the same itinerary and having seen the same work in which the British architects were engaged in the way of war housing. Since then Mr. Ackerman has been an apostle in the United States of better housing conditions, and greater architectural control over housing developments, and they are following the lead of Great Britain in the matter of improving housing conditions.

Going back to the origin of the whole movement in the United States and Great Britain, we have to remember that Great Britain itself, for the first year or two of the war, did not realize the importance of providing proper housing accommodation as a means of winning the war. You remember that for the first year and a half Great Britain was not sufficiently equipped with munitions and guns, and when Mr. Lloyd George was made Minister of Munitions he at once appointed a committee of eminent scientists to investigate the problem of output and to find what was the best means of increasing the output of the munitions industry. He brought Mr. Raymond Unwin, whose name is well known in connection with housing, from the local Government Board (where he had gone to succeed me when I came to Canada), put him under the Minister of Munitions, and placed him in charge of the housing operations for war purposes; and Mr. Unwin developed several model towns during the war for the purpose of helping to increase the output of munitions.

They were not building those model communities, or building chuches, or building community settlements, or building institutes, or laying out model villages, because they wished during the war to carry out experiments in better housing, but they did it for the sole purpose of increasing the output of munitions; and it was a remarkable fact that shortly after the disaster last April they were able within a few weeks to equip the British armies in France with the full amount of munitions they required, notwithstanding the tremendous losses during the set-back we had.

I cannot take up your time in describing what was done, because I want to get back to our own conditions here, and to deal with the circumstances we have to meet in this time of reconstruction.

Mr. Ackerman and I visited Well Hall village with Mr. Baynes, now Sir Frank Baynes—for you see they confer the honor of knighthood upon architects in the old country, because they recognize that art, as well as commercial instinct and commercial ability, deserves recognition. We also visited other villages, including Gretna Green in Scotland, where there were 15,000 people living on land that had been farm land two years before. This is a town occupied by 15,000 people, which was entirely built during the war. What sort of a town was it? Shacks? Were the people living in the open fields? Were there no gardens, or no churches? Nothing of the kind. We found that the roads were completed. There were sewers and water mains, and brick churches, all designed and completed by the best architects. We found permanent houses, and everything constructed in the most permanent manner by Mr. Unwin with the assistance of Mr. Krickmer as resident architect.

There you see the proof, that Great Britain had discovered, after careful investigation into the question and careful calculation, the necessity of providing, not housing conditions, but of giving the persons who live in the houses a sense that they had a comfortable roof over their heads, and also some opportunity of cultivating refinement in the dwelling, and entering into the spirit of enjoyment—and discovered how absolutely essential it was to build a properly proportioned house which even the ignorant working man (if you may call him ignorant in the sense of art) comes to enjoy, however unconsciously, when he lives in such surroundings.

Those things were brought home not as an attempt to administer to the enjoyment those people might have in art, but because it was realized that the contentment of the workingman, his efficiency as a worker, his capacity to produce shells and explosives during the war were to a very large extent dependent upon the comfort of his surroundings, the standard of his housing accommodation, and the opportunities that were given for him and his family to secure satisfactory means of social intercourse.

We found there a picture palace erected in a few weeks, and the proceeds of the entertainments were used for the purpose of providing other means of recreation. There was a large dance hall, which could be used for gymnasium exercises during the day, and which had been built in six weeks. This was a brick building, roofed with slate. We went through all the buildings in course of erection, and saw that there was no attempt made to deal with the problem in a temporary way—and this was what inspired Mr. Ackerman.

I have been tempted to say a little more about this than I intended, because Mr. Ackerman went back to the United States full of enthusiasm in regard to what he had seen of what was being done in Great Britain.

I feel as one who is a British citizen—because in Canada we are proud to be British citizens. We ought to recognize the merit which comes from taking the initiative in a matter of this kind, and from actually giving the leadership to a great, proud, independent people like those who live to the south of us.

Coming now to ourselves and the comparison between our own conditions and the conditions in the United States, I think my friends from the south who have studied this question will realize that we are, perhaps, proceeding on rather better lines than they have done. Congress was practically forced into giving this money for the purpose of helping to win the war. There was no illusion about their attitude. They did not want particularly to help improve housing conditions by means of Federal aid—that was a matter of private enterprise, and was not a matter for Congress, but if for the purpose of winning the war Congress should provide the money, why, it would provide it.

They set up an expensive organization, and proceeded to build a large number of houses. That of course was during the war. Since then the men who have been associated with this work have had a rather sad disappointment in that Congress has decided to stop all housing, and has actually insisted that many of the houses which are more than half finished shall not be completed because it is against their policy to build for purposes of peace.

Observe that as a policy the housing schemes in the United States up to date are purely war housing, not post-war housing at all, and men like Mr. Whittaker and Mr. Ackerman are striving to influence their fellow citizens to bring in a reconstruction policy that will deal with housing after the war.

GREAT BRITAIN'S PROGRAMME.

Now, what is our own mother country doing in the matter at the present time? They have built those war villages, but they do not intend to stop there. They have come to the not very remarkable conclusion that what is good for winning the war is also good for peace—that what is good for making munitions, is also good for making blankets, and woolens, or operating mines. In other words, what is good policy for winning the war, is also good policy to carry on in times of peace.

If it happens to be that during the time of war the making of munitions can be increased, the efficiency of the worker can be increased, his contentment improved, and better results obtained, why is it not logical that it should not be the same in time of peace? If a slum does not help you to make shells, will it help you to make steel, or build ships, or do anything else worth doing? What is sound for the time of war in a matter of this kind is surely sound for the time of peace.

If you agree with that conclusion, inevitably you reach the other one, that the slum and all it contains and all it produces is bad business. It is not a question of sentiment. The slum is not good business from an economical point of view, and it is improper from the point of view of a Christian civilization. It is the antithesis of those principles for which we have been standing during the past four years.

That is the question which is put up to Britain to-day, and that is the reason why they say, "We are going to invest up to one thousand million dollars to solve this problem, and we will face the possibility of losing one-third of it. We will not spend the money on housing schemes designed by contractors or by small men in their own localities, but we will employ the best architects in the country." And the Housing Committee says that every housing scheme should be designed under the best architectural advice as a preliminary condition to investing money in such schemes.

The architect in Great Britain has come forward, and has proved his capacity to deal with this problem. He has shown that it is not merely a question of business, but that it is to him a matter of social interest. He has shown that he knows and appreciates the psychological question of providing houses for the poor people.

He cannot build a $2,500 house and make a profit out of it, but he can provide a design for a series or group of houses in which variation is secured by some slight change in the doors, or the windows, and in which he attempts to secure, by grouping, by proper elevation in relation to the site itself, by the grouping in mass in a number of commonplace buildings, where he gets a good effect merely by the application of a little bit of personality.

In a case of that kind you get the interest of architects and the necessity of architects so proved to the public mind and to the politician that they have come to recognize the fact that the question cannot be solved without the architect.

I come now to our own conditions, and here I feel there is a lack of appreciation of the architect on the part of the public, and a lack of appreciation of what is necessary to satisfy the public on the part of the architect. I am perfectly frank with you about this question, and I would not say what I have to say unless I was speaking to architects. In connection with this matter we want to have the architect not only dealing with those housing propositions, but we want him to show his appreciation of the social aspects of that proposition. We want him to look at it not only as a business matter, but as a matter in which he is to make the contribution of the citizen and the contribution which is the best that is in him, subject, of course, to him getting a reasonable compensation for the services he gives.

STANDARDIZATION.

It is obviously impossible to design small houses for the working classes, and make it a business success. There must be some organization, some attempt at securing a reasonable degree of standardization.

There are objections on the part of many architects to standardization, if it means building all the houses alike. If it were reduced to that, for my part, I would rather have one standard pattern of a house designed by a good architect repeated over and over again, than have the abortions we have at the present time produced in the name of change all over the cities for workmen's houses. Better that you should have a good standardized pattern than a series of a thousand different patterns created without any sense of proportion or any proper sense of design.

There is surely some middle course, and we can surely get some improvement in the matter of design of our houses. If we go into the question, I think we will come to the conclusion that it needs some Government assistance in order to secure the necessary help for the architect and for the other craftsmen in producing what is needed.

The Dominion of Canada had no war housing programme like the United States; it had no war housing programme like Great Britain. As things developed, there really was not very much necessity for such a programme. Our housing conditions during the war were, comparatively speaking, not much worse than before the war. The overcrowding was not substantially increased, except due to the fact that building was decreased and that there was a drift of population from one centre to another. On the whole, however, we might probably have diverted labor from absolute production without effecting a very great deal of improvement in the conditions.

Although we had no war housing programme, we have this advantage in comparison with the United States, that we have a post-war programme. We recognize that although it was not absolutely necessary to build houses during the war, we are going to take part in reconstruction, not only from the point of view of improving our industries, but from the point of view of improving the conditions of the home people.

The reconstruction programme of the Dominion Government, and of the Provincial Governments, appears to be directed towards improving social conditions, as well as to improving the front trenches of the industrial organization on which our civic stability is built up. And, this is a very sound thing. When Hindenburg had his front line trenches firmly manned, and his guns properly placed, he suddenly broke down last autumn, not because he could not, for a time at any rate, have maintained the fight, but because of the social organization behind his front line trenches going to pieces.

In our industrial organization we have been too prone to imagine that the front line trenches of capital and of organization of our industries are sufficient, but we have to build up our successful industrial organization on the basis of a sound social condition among the people who are working in those industries. We have to get contentment among the people behind the trenches; they have to be satisfied that they are getting a fair deal. We have to make them partners in the whole business, if we are going to have stability and permanence in this new country.

We are prone to blame many of those who live under those bad housing conditions. Here again initiative and organization and an object lesson are needed from some body that can deal with the matter, like a Government.

The national Government has offered twenty-five million dollars at five per cent. to initiate this movement. It is setting up a small organization to assist with the preparation of some model designs, and to make investigations into a few of the problems that need to be investigated—for instance, how can we reduce the amount of fuel necessary to heat the small workingman's home? At present, because of bad construction, bad design and bad planning, we waste one hundred and five thousand tons of fuel a year in this country. We want to discover the extent to which we can reduce our enormous fire loss by proper construction. In this country we pay about $3 a head more than they do in Sweden, where, throughout the country, wooden homes are quite common.

WIDE STREETS AS A DETERRENT TO HOUSING.

We want to reduce the expense which we are incurring now on wasted mileage of roads of unnecessary width. It is a fact (although it is very hard for Canadians to believe it) that wide roads produce overcrowding and congestion, instead of relieving it. If you spend too much money on your roads, you have not enough to spend on your houses. You have not enough to build a sanitary home for a workingman if first you must spend $1,500 for the site on which to build it.

Mr. Dalzell, the assistant engineer of the city of Vancouver, showed that in a workingmen's ward it cost the city of Vancouver, plus the owner of the land, plus the person who was building the house, $3,000 a lot of 50 feet frontage for the land, the pavement, the sidewalk, the sewer, the water main and the school before a brick was actually put down to build a home on that land.

How can it be done, and how can the architect build a home for a workingman if the workingman has first of all to pay interest on $3,000 before he can start to build? There is absolute waste going on in the development of the land, as well as in speculation in the land.

We have speculation in land all round Montreal—the island is covered with undeveloped vacant lots, and large expenses are being incurred in putting down streets, pavements and sidewalks to develop that land. Investigation would probably reveal that on this island there are local improvements carried out so much in excess of what is actually needed for immediate requirements, that if they were all consolidated, everybody would have a pavement to walk upon, there would be no muddy streets, there would be a sufficiency of sewers to provide for future development, and you could have avoided spending perhaps tens of thousands of dollars on unnecessary water mains. But, owing to the fact that we congest our cities, and owing to the fact that we spread them out in scattered lots in the outside country, we have to provide many miles of pavement, many miles of sidewalk, many miles of sewer and many miles of water mains more than necessary, and that is one of the principal reasons for the almost unbearable taxation in our cities.

The extent to which that burden is creating present financial difficulties in our civic administrations is not realized, but it is at the root of much of the trouble.

The city treasurer of the city of Toronto says that about one-half of their taxes are due to the system of carrying on local improvements.

Every citizen in the city of Edmonton has to pay $60 tax this year for municipal purposes, as against an average of $9.15 for the whole of England with all its slums and all its difficulties and with all its bad conditions to be removed and paid for. Now, Edmonton is only an extreme case of the conditions you have on Montreal Island.

No Government housing policy can ever be successful which begins and ends with the architectural aspect of the question. You must deal with the land question, and until you deal effectively with the land question, the architect will always have to take a back seat, and it will always be said: "We cannot afford to pay an architect to help us design a house, because we have spent all our money on unnecessary and badly placed roads, sewers, water mains and so on—in order to have a beautiful vestibule to get to a house which we cannot afford to build—a beautiful avenue which will lead us to a vacant lot on which we hope to see a house." We should town plan our cities as a preliminary to making proper housing schemes.

TOWN PLANNING AS A NECESSARY PRELIMINARY.

The housing question is a question of providing a place of shelter for the man who is engaged in the industries of the city. There are three things required: the home, the means of getting from the home to the place the man works, and the place where he works—housing, transit, and industry.

In dealing with the housing problem, you must deal with the question of transit, and in dealing with the question of transit, you must deal with the street planning system. You have to plan your residential areas, and your factory areas, and your business sections with proper regard to each other, and with a view to securing proper efficiency in your general civic administration, and we are going to face a serious difficulty in the future in connection with the cost of civic administration, unless we apply our minds to this question.

THE NECESSITY OF PROPER SURVEYS.

But, even the planning must be preceded by something. You do not know the city of Montreal; nobody does. You have not a proper map of the city of Montreal. There is no proper regional survey of this city and its surroundings. I do not want to be always taking England as an example, but, as you know, you can go into an English city and buy a piece of land from the Ordnance Survey Map. You can go to the Board of Agriculture, and for three shillings buy a sheet of paper on which there will be delineated the actual physical topographical conditions of the territory which is included in that map, and looking at that map you can determine the acreage of each field, the position of each hedge and each ditch. You can see the land that is marshy; you can see the railways, and count the number of feet in the embankments, or in the cuttings. The accuracy of that map is almost beyond belief.

I had occasion to go to ninety different places in England to hold enquiries into town planning schemes, and I never really needed to visit one of them in order to know the character of the country. I could tell in my office exactly the number of houses along a particular road, as well as the grade of the road. There were spot levels every ten or fifteen yards, and bench marks all over from which they were taken. I could see from the map the exact conditions with which I was to deal.

The first thing we want here in order to get down to this land question is to have our survey made, and have proper town planning schemes dealing with the whole of this island, for instance, and then the solution of the housing problem may be met in a really satisfactory way. But, of course, we cannot wait for that, and we are trying to get the Quebec Government to take action now. I believe it is suggested that a Town Planning Act is likely to be discussed at the coming session of the Quebec Legislature.

Now, what is the house itself? The house does not consist of a building; it is a piece of land, plus certain local improvements, plus the structure which is erected on the land. There are three elements to it. We are often unable to provide a healthy dwelling because we waste too much on the means of getting to it, building unnecessary roads, and developing the land in the wrong way. Therefore, I maintain we should consider these three elements together.

If a working man can afford to pay $20 a month, he should only pay a certain proportion, say one-eighth, for the bare land; another proportion, not more than one-eighth, for the local improvements; and the remainder should go for the house.

The house should be sanitary, healthy, light and airy. There should be proper provision not only for shelter, but for bringing up a family under healthy conditions. In these days we cannot be like Robinson Crusoe, content with a simple cover for our heads. We have to provide the means of getting the necessities for efficiency, as well as the necessities for existence. We must provide the means for happiness and contentment, as well as the necessities for a bare living. We must also regulate the cost to correspond with the amount the man can afford to pay.

The question of house planning, the cost of the land, and the cost of the local improvements are all inseparably bound together. A great deal of investigation and careful study into the house itself are required, and a great deal of investigation into where the house should be erected is also required. There should be a committee of this institute helping and assisting the Government, without remuneration.

There is no intention to take the brains of any body of men and misuse them in any way. In England they have found it to the advantage of the profession to hold a competition all through the country, for the best house, and the man who was associated with me in Letchworth Garden, Mr. Krickmer (who started his profession in the way of designing small houses for men who could not afford to pay more than $8 or $10 a month), succeeded in getting the first prize against all England for the designing of the best cottage for the workingman.

There is not an architect who will not admit that in Canada we have not had sufficient inducement in this direction for an architect to give his brains to this particular branch of the profession. There must be something to induce them to put forward their best efforts and skill in designing the most suitable houses for workingmen.

DETACHED HOUSE MOST DESIRABLE AND ECONOMICAL TYPE.

One thing which was brought out in connection with the investigations made on the other side, and which will be interesting to you, I think, is this. In a report which has been produced by the Government, signed by some eminent architects, such as Unwin, and Webb, it is stated that on the whole it does not pay to build a tenement, or even a two-flat cottage—that the house which is most economical in the long run is the dwelling built on its own separate piece of land, with a separate door, with two stories, three bedrooms above and the two living rooms below. It may be semi-detached, or in a group of four, or six.

"But," somebody says, "what about our expensive land in the centres of the cities?" If you study that question you will see how far the tenement produces land values as well as the land values produce the tenement.

TENEMEMENT HOUSES AND LAND VALUES.

Berlin is a city of tenements. Five hundred and ninety-four out of every thousand people live in buildings of five stories and over. Sixty-five per cent. of the people in Berlin live in houses of two rooms and less. Contrary to the imagination of some as to German efficiency, Berlin is one of the worst housed cities in Europe; and there is some connection, I think, between that and what Macaulay said, that the people who would destroy European civilization were not the wild savages, but the Huns and vandals of the slums of the big cities.

In Berlin, in 1910, you could go into blocks of six tiers of tenements, five of which were facing on the courts behind the streets, only one facing the main street, and that was the only one the tourist saw when he was taken around to see the beautiful facades and the beautiful efficiency of the German Government.

When the time came for the real test to be made, only nineteen per cent. of the boys of Berlin-born parents were fit for military service.

There is practically no city where land is dearer than the tenement city. Go to Edinburgh and you will pay twice or three times as much for land as in Birmingham, or London—Birmingham with 850,000 inhabitants, and London with 7,000,000 inhabitants.

Not only do high land values produce the tenement, but if you build tenements you will go on producing the complement of high land values. We must try to break this evil complement between the two things, and the only way is to encourage the building of the cottage rather than of the tenement, and only fly to those high tenements when we are forced to do it; recognizing all the time that in cities like Stockholm, and Berlin and Budapest and other cities in Austria and Germany, we find that corresponding to the high tenement there is the dear land and the deterioration among the people.

Now, how does this interest the architect? I want to try to show the architect the importance of devoting his attention to the small house, rather than to the planning of a small flat in the tenement building.

The question of Government housing has some bearing on this question of the kind of house that should be encouraged. What should we encourage? If the Dominion Government offers money for the purpose of building houses, should we say it is for detached, or semi-detached dwellings? Should we encourage the one against the other? I think you will find the tendency will be to encourage the development of the single home, whether it be the detached dwelling or the semi-detached dwelling, or the row of four or six; and I feel that discretion should be allowed the architect in suggesting what is best for a given place under a given set of circumstances. At the same time the home which a man can enter from his own front door, where he can have a little piece of a garden to himself will be the thing which the Government will endeavor to encourage in all our cities; and if land is too dear, it must come down. The question of high land values must not stand in the way of the proper housing of the people.

TRANSPORTATION.

There is, of course, the recognition of the fact that there are certain cities which are unsuitable for that class of house. Where the land is too valuable for that class of house, it must be used for the purpose for which it is more valuable. Town planning helps to solve the difficulty, because if you divide the town into residential areas, and manufacturing areas, and business areas, and if you have the means, are you not going to solve the problem by transportation?

New York has spent millions of dollars in improving its system of transportation, and the president of the underground system informs us that in 1925 it will be unable to cope with the increased population which will be occupying the downtown district of New York.

Boston has increased its fares to eight cents. Montreal, and other cities, are facing the same problem—not because the trams are not full, but because they are all congested at the wrong time, because the efficiency of the system has not been properly considered, for the reason, for one thing, that our street railway system has grown up by accretion, and the compelling power of the real estate owner drawing it out to the suburbs, instead of according to any sound system or plan in the interests of the community as a whole.

We have no system to work to, although, to a certain extent the interests behind the street railways have done their best in the way of providing a system to the satisfaction of the people. At the same time, in the absence of a proper scheme of development and proper consideration to the laying out of the surrounding districts, there can be no efficiency of street railway systems, and there must be a time when you will have congestion, plus increased cost of transportation.

I used to be told "If you spread the people out over the surrounding territory—if you do not build tenements—you will ruin our street railways. We must have congestion to make them pay." As a matter of fact, to-day congestion is absolutely the worst enemy of the street railway, which cannot carry the passengers when a certain stage of congestion is reached, and the result is they are blocked, and held up, and the street railway cannot be made to pay at five cents to-day as well as when there was less congestion. In other words, extreme congestion is worse than scattering the population too widely. Neither extreme crowding nor undercrowding is sound. It should be a regular, even development, so that you will have Montreal, for instance, not jumping out in spots, but, as the Montreal "Star" so well put it, rolling out evenly to the suburbs, where your whole system of transportation, and sewer, and water mains, and roads will follow gradually, instead of jumping out and wasting miles and miles of all those facilities.

Here is where the question becomes of interest to architects. If you have to build Westmounts for workingmen, here is an opportunity of showing your genius, not to build a single workingman's house, but to build a whole community. Why should not the workingman have the advantage of proper houses as well as the people who are rich enough to restrict themselves all around and to restrict the land on which they build? Why should the workingman have to live in the shadow of the chimney, and of the railway station, and not get the advantage of proper planning just as well as his richer neighbor? Why should we not have our districts around Montreal where proper housing accommodations could be provided for a comparatively small sum? I am sure the result would be satisfactory from every point of view, and that our artistic sense would not at all suffer, for I have seen worse abortions erected at a cost of $50,000 than at a cost of $1,000.

If you restrict a residential district by saying, for instance, that no house in it shall cost less than $10,000, and if at the same time architects are not employed for the construction of buildings in that district, you will get a far less satisfacory result than you would get if you had small cottages with gables and plain windows according to the old fashion, designed by competent architects, and costing $2,000 or $3,000 each.

The question of price does not enter into it. It is a matter of architectural control, interest and development, and of helping people to realize that simplicity is beauty, and that some of the things looked upon as beauty are really monstrosities.

By helping to produce simplicity in the home, to give improved home conditions, and to reduce the cost of development, we have wed town planning and housing, and the architect is interested in both.

Now, I have taken up enough of your time. I have developed to some extent the question of the important relation between town planning, and housing. I have indicated the policy of the Dominion Government. Before I close I wish to refer to the connection between the Dominion Government and the other forms of Government in this country.

In the United States the Federal Government did all their war housing. They ignored the States and the municipalities, and the States and the municipalities did not feel any responsibiity in the matter. I very humbly suggested to them that they should have brought the States and the municipalities in from the beginning, but they did not do it.

POLICY OF DOMINION GOVERNMENT.

The Federal Government here provides $25,000,000, which will be given to the different provinces in equal proportions. Quebec will obtain something over $6,000,000. If Quebec were to follow the lead of Ontario, it would provide another one and a half million dollars or more, and would lend the money at 5 per cent. to the municipalities, or the housing associations, or even to private individuals who are willing to build their own houses.

In Ontario I think the amount is $8,750,000 and the Government intends to lend $2,000,000. In Quebec, although $6,000,000 may be available, it would not solve the housing problem, but consider the splendid beginning you could make—consider the opportunities you would have of showing how the problem could be solved.

In solving a question of this kind, two things are necessary, first, that we should humbly acknowledge having made an awful mess of it in the past; and, secondly, start to provide an object lesson as to how it should be done in the future. Then we could undertake it on a much grander scale, and get plenty of money if we wish it. We could do it right, and the advantage that could be produced is incalculable.

I lived through a very important period of the Housing Reform Movement in England. I remember a time when you could hardly get any one to talk of a detached cottage—it was all the high tenement, because people must live near their work. It took Lever's scheme at Port Sunlight, and Cadbury's Garden City at Bournville, and the Garden City at Letchworth, and the Garden City at Hampstead to demonstrate the contrary. Those four schemes did more by a practical demonstration than twenty years of talking could do, because people are not convinced by what you say to them, but are convinced by what they see.

I feel that by the introduction of Government control, and by the application of proper talent in the proper direction and under proper supervision, we will be in a position to show by practical demonstration how these housing schemes should be carried out, and if we do this we may leave the rest to private enterprise without fearing very much for the result. I feel that we have not yet given the whole question sufficient consideration, and have not yet organized sufficiently, and I also feel that the time has come when it should be taken up. I hope the architects will co-operate in the fullest way to help the Municipal, the Provincial and the Federal Governments to make a success of their housing schemes.

In a democratic country, the Federal Government supplies the provinces with expert advice, makes investigation into the question of standardization, costs, accountancy, how a certain proportion of income will pay a proper return on a certain amount of expenditure, and so on. The other day I advised that it would be better to build a four thousand dollar brick house with hollow walls and some form of fireproof roof, rather than a frame house at $3,000, provided that on the $4,000 house the money is lent for thirty years, as against twenty years on the cheaper construction. In other words, $20 a month provides for five per cent. interest and the return of the principal on $4,000 in thirty years, as against $3,000 for twenty years, and it is better to encourage people to have the permanent structure, even if you extend the payments.

Then, you have your Provincial Government dealing with the problem locally, and assisting the municipalities with expert advice, and you will have the municipalities themselves co-operating to the fullest extent, with the assistance and advice of the architect.

Good government might be better by having a bureaucratic organization, but good government is no substitute for self-government, and in our democratic country we are not going to abandon the principles upon which we have been growing up, but we will continue to have self-government, and so we must have a little overlapping. But in the end we will produce more satisfactory and permanent results if we have the federal, the provincial and the municipal authorities all co-operating together in inviting panels of professional men from the outside to assist them in solving this problem.

I would just say in conclusion what I ventured to suggest to a similar meeting of the American Architects last February, that we have an opportunity for the architect to show not only his skill and his interest, but to prove that he has executive ability as well as imagination. A great many people have gone about this country and the United States and actually proved that the only thing that matters is executive ability—that it does not matter if they have no University training, or that they are not architects or engineers, if they have executive ability everything else can go to the winds, because executive ability is the only thing that counts. Every one knows executive ability is an excellent thing, but it needs science behind it. As architects you know executive ability alone (and common sense is another way in which it is expressed) is not sufficient to deal with those technical problems. Proper training is also necessary. You must have a combination of the two, and one is not a substitute for the other.

The architect must bring to bear upon the solution of these problems not only his interest, but he must prove to the public that he is required and that he can help to solve them. He must also show that the solution of this question is to be obtained by the man who has ideals and imagination, that cultivation of these qualities among the general body of the people is essential, and that the men who are giving their lives and are engaged in the work of putting their souls into their business can help the people who put their souls into the work of improving the public welfare by producing better conditions in our country for the future of its civilization and its people.

Discussion

Mr. Wickson: I do not think there is the slightest doubt that we have all enjoyed Mr. Adams' address, which has given us something to think about, and I feel it would be a great pity that the matter should be dropped now that we have so much material before us. I will, therefore, call upon Mr. F. W. Stewart, of the City Improvement League (Montreal), to say a few words to us.

Mr. Stewart: I did not expect to be called upon to say anything to-night, but I can assure you that every word Mr. Adams uttered has been of very great interest to me. As the newly-elected President of the City Improvement League, I may tell you that the first work we intend to take part in is the housing question, and I may add that we would have shown more activity in this direction since our Annual Meeting two or three weeks ago had it not been for unforeseen circumstances over which we had no control.

I believe there is no subject which can occupy the minds of the citizens of this country at the present time to better advantage than the housing problem. I have not as yet been able to give the matter thorough study, but with regard to what the Government is doing in connection with the lending of money to the different provinces, I understand that one of the regulations under which this money will be lent is that the civic administrations will have to lend a similar amount to the people who wish to build their own homes. If that is correct, it occurs to me that if the problem is to be taken in hand in the proper way and if results are to be obtained, it will be necessary for the Government to widen its scope in connection with the lending of this money. If one of the conditions under which the money will be lent is that municipal administrations must lend a similar amount, you can realize how far the people of this city, for instance, will get in regard to the building of their own homes.

Mr. Adams: Your understanding of the matter is not quite correct, Mr. Stewart. The Federal loan is given to the provinces with the right to re-lend it, without any condition that they have to put up any money at all. Nor is the city expected to put up any money. The only point is that the city may have to suffer a loss if it erects houses at too high a cost. It is not required to put up any money.

Mr. Stewart: I am glad to learn that my information was not correct. When I was informed that such was the case, it appeared to me that it would make it practically impossible for the wage-earner of this city to undertake to build a home for himself.

May I take a moment or two, as President of the City Improvement League, to explain what our plans are, not only in the direction of housing, but with a view to widening the scope of the League in other activities. It is our intention, within the next few days if possible, to ask the representatives of other organizations in this city to attend a meeting which will be called by our executive for the purpose of laying plans by which every organization in the city will be represented on the council of the City Improvement League. In that way, we feel we will have the people represented in our organization, and matters of this nature can be discussed, not only by groups from any one organization, but by representative groups from all the organizations and all classes of people in the city. We hope to be able to discuss those matters around one common table, and if this can be done special committees will be appointed embracing representation from those different organizations, and we feel that the housing problem will be carried out in such a way that we will be able to show some very desirable and direct results.

When this meeting is called, your association is invited, and I hope you will send a representative or representatives. The object of the League will be to try to make it a clearing house for the organizations of the city, and I hope when the work is carried forward that the City Improvement League, with the assistance of the other organizations in the city, will be able to co-operate on the plans that Mr. Adams has outlined to us to-night.

I thank you, Mr. Chairman, for allowing me to say a word or two, and I am sorry I am not more conversant with the housing problem, so that I might be able to say more about it. My good friend, Mr. Dandurand, who has spent so many years with the City Improvement League, and who has given so much of his time and attention to the improvement of buildings in the city, can tell you more about the subject than I can.

The Chairman: Unquestionably, you will become more conversant with it before long, and you will find in it a large field for your labors. I have much pleasure in extending to Mr. Dandurand an invitation to say a few words to us.

Mr. Dandurand: Surely you do not expect me to speak on housing when Mr. Adams is here. As chairman of the City Improvement League, I have for years been collecting data, and it has been very captivating work. Mr. Adams has sent me literature on the subject which I have found most interesting. I am here to-night to learn, and not to give advice. I have been honored with an invitation to attend a luncheon on Tuesday next and meet Mr. Adams in conference as to our future work. My contention is that it is a little late even now. We should have been at work long ago. This problem is not one to be solved in years to come. It should be studied right now. Our men are coming home, and I know for a fact that there is a scarcity of houses which is becoming more and more acute every day.

I am glad to see that this question has been taken up seriously by the Federal Government, and I am sure that the Provincial Government should follow up the good work with vigor and enthusiasm. I was pleased to hear Mr. Adams say that there is absolutely no string attached to the loans in the sense of the cities having to contribute, because we are even now in doubt as to the ability of our city to co-operate in such a large work. Our past experience has been very disheartening, but we hope for the future. My feeling is that the best way to look to the future is to put our own shoulders to the wheel, and not depend upon others, and I am willing to lend my humble efforts to the work because I like it, and because it is a labor of love. I know it is a good work, and very interesting, indeed, and I assure you you can count on me to co-operate in any way I possibly can.

I was first chairman of the Real Estate Exchange. At that time we did not expect any Federal help or any outside help, but we thought that one of the lines on which we should proceed towards providing cheap, attractive and hygienic homes for the working classes was to invite the architects to co-operate with us in the way of submitting plans which would be exhibited in the exchange, where the people could come to consult them, and employ the men whose plans appealed to them.

While Mr. Adams was speaking the idea occurred to me that we might be able to co-operate on that plan again.

As Mr. Adams says, the preparation of proper housing plans requires not only executive ability, but, in addition, requires science and technical training, and with this in view we most certainly must have the assistance of the architect in the prosecution of the work.

The Chairman: At a discussion of this question the other day, one of the speakers had been enumerating the several things which ought to be done, and when he got through somebody else got up and said that if we wished to get everything done that was suggested, and in the way it was suggested, a lot of those soldiers and their brides coming home would be tired of each other before they got a home to live in.

Dr. Atherton, will you give us the benefit of your wisdom, and say a few words.

Dr. Atherton: I have not much wisdom, Mr. Chairman, but I have some experience.

As secretary of the League, there are a great many gentlemen in this room to-night whom I know, and I think they will realize that in the past when we were very nearly getting something done we might have succeeded better had we carried out the suggestion of Mr. Adams of combining science with what executive ability we had. The Architects' Association was at one time very close to us. We tried to get a city planning rule, and have a City planning Commission established, but we could not induce the aldermen to grant the means necessary, and so we could not get ahead.

Then we were very nearly getting housing experiments some three years before the war, and the architects were interested again, and we were serious. Again, we were not as successful as we should have been.

Now, in Mr. Stewart we have the executive ability to do something right. We are tired of thinking about what we should do. We are tired of the Commission on Education, because we are perfectly educated on the point. The only thing we want is the money, and at the present time it looks as if the money was coming. The real reason we could not get the money some years ago was people were so selfish that they would not lend money which would bring back only 6 per cent. Our late Governor-General, the Earl of Minto, came before the League and almost cried in his anxiety to get the League and others in this city to take up something on the lines of the Hampstead Garden City applicable to Montreal. He told us it was a gilt-edge proposition and that he was sure it would bring back full returns in civilization and patriotism to those who lent the money. A company was actually formed, and the thing was going ahead, but they fell down because the real estate people got wind of what was going on, and there was no use trying to get any land at all suitable.

I believe if we act quickly now there is a lot of land that we can get away from the owners at a very reasonable price.

The most hopeful thing, to my mind, is that the monied men of the Dominion have opened their hearts. They are content to lend their money to the Government at 5½ per cent., and a feeling of local patriotism, and true patriotism, and of the worthiness of spending money in the country for the good of the people has been engendered. The result is that I do not see now why the difficulty (which is mainly one of money) cannot be overcome by taking the bull by the horns and getting to work at once to organize some kind of a housing association, get the architects busy, get the newspapers full of it, and get the people interested in it. If we do this, I think the money will be forthcoming.

The Chairman: We have with us this evening Dr. Hodgetts, who has been Red Cross Commissioner overseas. I am sure he can say something that will help the movement along.

Dr. Hodgetts: It is, indeed, a pleasure to me to be back again in Canada, and to know that the work which was started some years ago is bearing fruit.

I was scoffed at some years ago when I introduced the subject in Quebec, and stated that there were worse slums in Canada than were to be found in many cities in the Old Country, and that the time had arrived when Canada wished to be a nation, and we should take advantage of it. Things have changed somewhat, however, and although I have only been in the country since Christmas I find matters moving along on lines that will place Canada on a par with any other city.

I was particularly impressed by Mr. Adams' reference to human efficiency. Human efficiency means national efficiency. Canada has proved to the world that she is efficient. Sixty thousand of our men have "gone west," and have established forever on the roll of history that Canada is efficient as a nation. Now, if we are to maintain that reputation, we must secure good, healthy homes for the people who are here now and for the millions who in future years are to inhabit this great Dominion, and I feel that the architects, the engineers, the surveyors, the humanitarians, and the public generally, must work together to bring about a result of which we may be proud.

In May, 1914, the Prussian Government passed a bill which would prevent the construction of any more tenement houses in Prussia. When that bill was introduced into the House the Minister stated that they had found that the inefficiency of the people of Prussia was due to those tenements, and that their idea was to establish homes along the English lines. Of course, this bill is still on the statute books, and I hope the democratic Government will carry it out.

England was spoken of this evening. I remember that Lloyd George made the statement that he was appalled when he found that there were more inefficients for the British Army than there were either in Germany or in France, and he claimed it was due to bad housing conditions.

We want good, efficient men and women in this country, and we can only get them if we give them the proper environment in which to live, and by this I mean not only a home, but everything that surrounds it, in our towns and cities, and the Dominion in general.

I thank you for the privilege you have accorded me of saying a few words, and I hope that the good work Mr. Adams has done during the last four years will be carried out to a successful and glorious conclusion.

Mr. Hynes: I would like to ask Mr. Adams what machinery the Dominion Government has established to work out the requirements, and how it expects to co-operate with the Provincial Governments in having them carried into effect through the municipalities.

Mr. Adams: The matter is, of course, in a very early stage. The Order in Council was only issued on December 3rd last, and since then the Cabinet Committee which has been considering the subject has been in consultation with others working out a scheme. So far, as far as it is arranged, I can give you an indication of what has been done and what is immediately contemplated.

There is a Cabinet Committee, of which Mr. Rowell is chairman, consisting of Hon. Mr. Crerar, Minister of Agriculture; Hon. Mr. Robertson, Minister of Labor, and Hon. Mr. McLean, Minister of Reconstruction. This Cabinet Committee will be the supreme authority in the administration of the bill. At present it is suggested that they should ask the Commissioner of Conservation that I should co-operate with them, and I have been in consultation with them. We have arranged, as a preliminary step, that I should direct the work under that committee for the time being, but that I should continue to act as town planning adviser to the Commissioner of Conservation.

I have taken offices for that work, and have arranged to employ a staff, one of whom will be an architect and another an assistant engineer. The first work that will be done will be to consider what advice can be given to the provinces without letting them feel that we are giving them advice. We do not want the provinces to resent the suggestions we may make to them. The provinces are a little touchy on that point, and they do not want to be told anything they do not ask for. On the other hand, we do not want to make suggestions without invitation.

There will be complete co-operation, and one of the things we desire to do is to assist the provinces so far as they will permit us. In this matter, the Federal Government is somewhat in the position of having to wait upon the good will of the provinces. They give the money, and say: "We are prepared to advise you, and to assist you with expert advice, but we must leave you to suggest to us in what way we can assist you and in what way our expert advice may be useful." We cannot very well jump over the provinces to the municipalities, for instance, because that might create friction. Therefore, what we may do will depend largely on how the provinces will co-operate.

As far as the Federal Government is concerned, I am perfectly satisfied there will be no lack of desire to co-operate, and no unwillingness to give the utmost of advice and help that the provinces will accept.

I may also add that certain suggestions have already been sent out to the different provinces with regard to standards of price. Those are merely put forward for their consideration, and we are waiting to receive their replies before advising what further steps will be taken.

I left my office this morning, and I shall go into a new office and take up this new work when I return on Monday morning.

Dr. Hodgetts: Can you give us any information in regard to what Mr. Ellis is to do in the Province of Ontario?

Mr. Adams: The Premier of the Province of New Brunswick has appointed a barrister to co-operate with the Federal Government in preparing the necessary legislation. He will meet me on Friday next to discuss the question, and I hope to be able to get some definite steps taken in the Maritime Provinces to appoint a thoroughly qualified man to assist in the technical work.

Nothing has been done so far in Quebec.

In Ontario the Government has voted $2,000,000, and has appointed Mr. F. A. Ellis as Housing Director or Housing Commissioner for the province. I believe the idea is to employ experts to assist him.

The Manitoba Government has not made any appointment, but has held a meeting of the municipalities, and has asked the members to come together, make a survey of their conditions, and come back to a further conference, to be held next month, I understand.

In Saskatchewan they have a first official, who is director of town planning and housing for the whole province. Under the Act they have a director of town planning.

Further west there is no actual movement, but we hope to have a town planning director in Alberta and in British Columbia, and I trust we will get architects associated with the organization in each province.

One of the first things I would like to see done would be to have each province with a proper official in control. Personally, I would prefer to see a man who has the professional experience necessary to make him a town planner, rather than one who, however high his legal qualifications, may not be quite fitted for taking charge of that kind of work. Of course, I only speak as an individual, and so long as I have anything to do with it I shall endeavor to co-operate fully with whoever may be appointed by the Government.

There is another movement on foot which has something in connection with this. Not long ago there was a meeting held at Ottawa, under the suggestion of the Dominion Surveyors' Society, for the purpose of stimulating education in town planning in Canada. It was a meeting of the members of the Ottawa Chapter of the Architects, representatives of the Engineering Institute and representatives of the Land Surveyors' Association. Mr. Milson, the president of the Ottawa Chapter, and Mr. Cromarty were present, and we decided to form a town planning institute, in which the first qualification for membership would be that the person should be either a member of your institute or of the Engineers' Institute, or of the Surveyors' Institute, and, in addition to that, should qualify within a year in some form, either by preparing a plan and writing a thesis, or passing an examination in some way connected with town planning. If this is carried through we shall develop an institute in which there will be the town planning architect, the town planning engineer and the town planning surveyor. No one shall be eligible for permanent membership until he has qualified himself, and if he does not qualify within a year or two by his own direct efforts, he will not be a member of the institution.

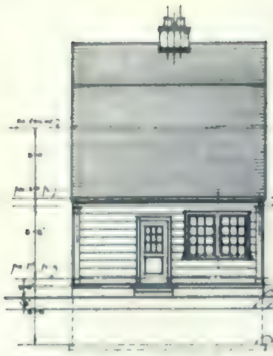
The idea is to try to train some of our architects, engineers and surveyors who are inclined to take up town planning as a special branch and become specialists in that particular sphere. I am sure this will meet with your approval, and I hope you will endeavor to encourage it, because one of the main objects of it is to encourage university courses and the giving of diplomas in town planning.

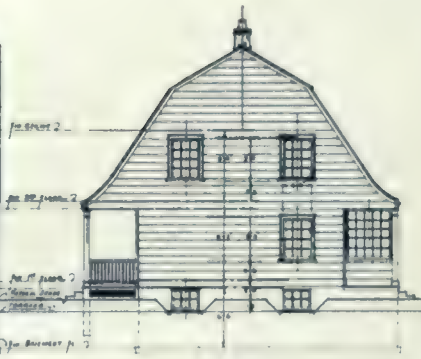
The question does not arise that the engineer and the architect will conflict at all. I was associated with a town planning institute in Great Britain, and there the engineer and the architect and the surveyor were working together, and when a city wants a town planning architect it does not send for an engineer; if it wants a man to design a group of buildings or to consider a street in relation to the lay-out of a group of buildings, it does not send for an engineer. On the other hand, if it wants to develop a system of transportation, it will send for the engineer, not for the architect.

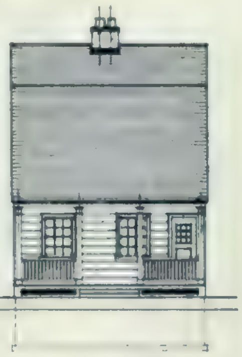
Mr. Stewart: I have before me a memorandum which I think applies to the subject under discussion. It is in connection with the money which is to be loaned by the Government, and I think it might be interesting to have Mr. Adams comment on it. It is to the effect that in regard to the loan all applications shall be approved by a local committee of responsible citizens, who shall give their services gratuitously. The applicant shall be recommended to the committee by his employer. Loans shall be made through a properly qualified trust company, on the recommendation of the commitee, who shall approve of the value of the land, the class and value of the buildings, and the responsibility of the contractors. Where the applicant desires to build his own home, or become his own contractor, the committee shall lend

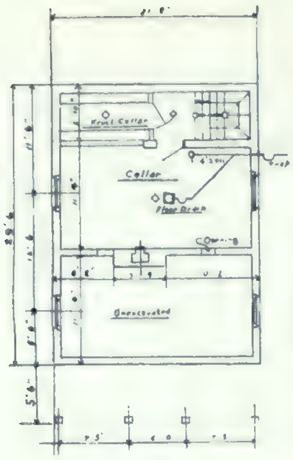
(Concluded on Page 93.)

INEXPENSIVE TYPES OF HOUSES RECOMMENDED BY THE ONTARIO HOUSING COMMITTEE.

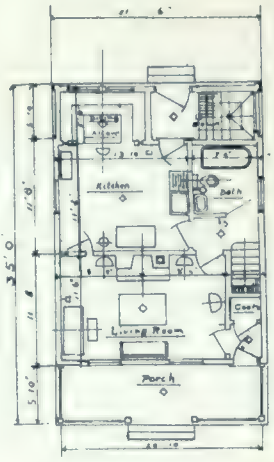

Rear Elevation


Side Elevation

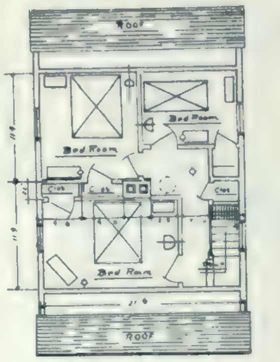

Front Elevation



Basement Plan

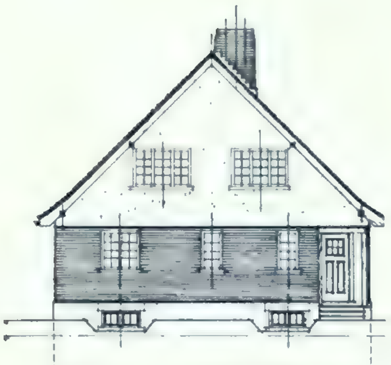


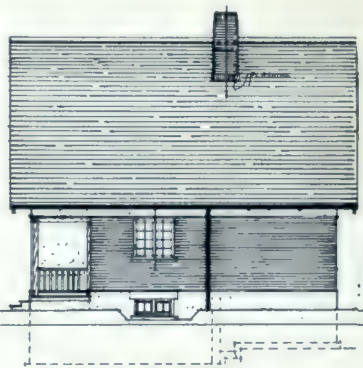
First Fl. Plan

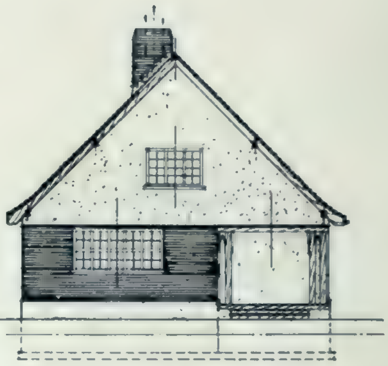


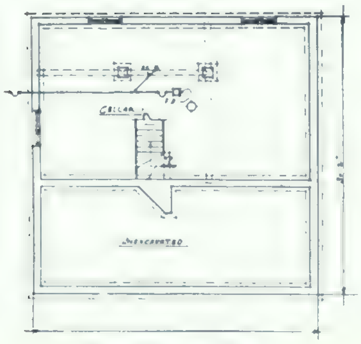
Second Fl Plan

FIVE ROOM DETACHED HOUSE.

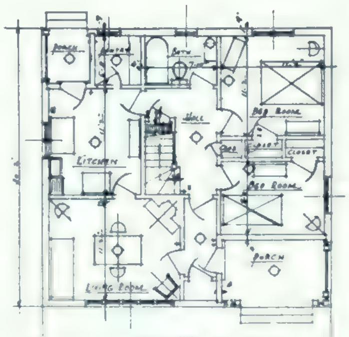

Rear Elevation


Side Elevation

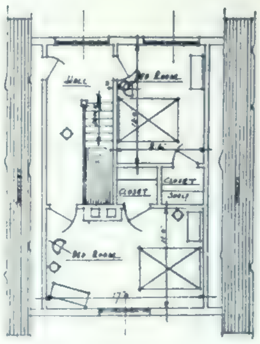

Front Elevation



Cellar & Foundation Plan



First Floor Plan



Attic Plan

SUGGESTED SCHEME FOR A SIX ROOM DETACHED HOUSE.

Types of Inexpensive Houses

Recommended by the Ontario Housing Committee

THE preliminary report recently issued by the Ontario Housing Committee incorporating proposals as to acceptable standards of inexpensive houses, is particularly timely in view of the likelihood of the Housing Act now up for discussion being passed at the present session of the Legislature. It is likewise opportune in that it gives the first tangible evidence of how the Government proposes to deal with the housing problem other than to render financial aid to those who desire to build. The committee make a number of important recommendations based on a careful investigation of living conditions with a view to establishing certain governing conditions necessary to obtain a desirable state of home life and healthful and attractive surroundings. These take into consideration the question of plan, household arrangement and economy, materials and sanitary equipment, direct outside lighting of rooms, open spaces, and the grouping of house in relation to all new developments.

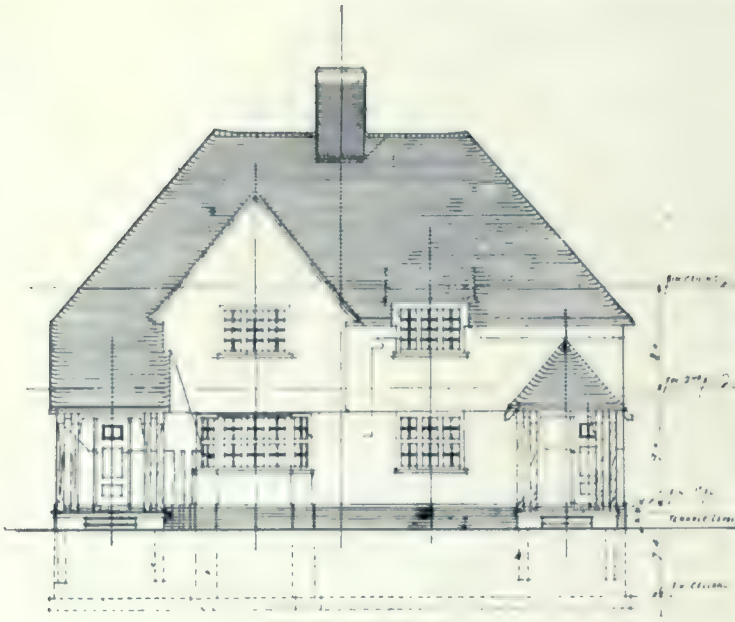
PERSPECTIVE DRAWING OF DETACHED HOUSES (see opposite page).

Essential features are summarized as follows:

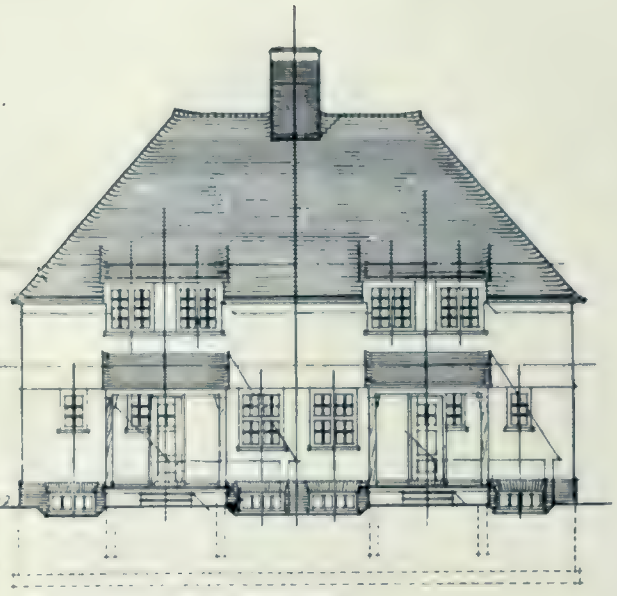
1. Sufficient land to give each family privacy and plenty of air.
2. Water tight floors, walls and roof.
3. One, or more, rooms for cooking, eating and general day use.
4. Bedroom for parent's use.
5. Bedroom for male children.
6. Bedroom for female children.
7. Provision for toilet with sanitary water closet and sewer connection.
8. Running water supply fit for drinking.
9. Kitchen sink with waste connection to sewer.
10. Uninterrupted daylight and ventilation through windows in every room.

Additional features which are so desirable as to be almost essential are:

1. Bathtub and lavatory, with hot and cold water supply.
2. Laundry tub with hot and cold water supply.
3. Direct sunlight in all principal rooms.
4. A second room, in addition to that used for cooking.
5. Clothes closets.
6. Porch verandahs.



FRONT ELEVATION.



REAR ELEVATION.

Further additions of desirable features include:

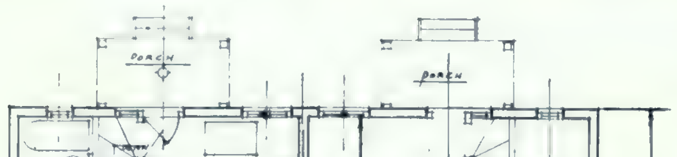
1. Electric light.
2. A separate dining room.
3. A cellar.
4. Furnace for heating.

TYPE OF HOUSES.

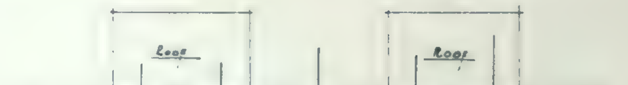
Suggested schemes have been worked out in the way of plans, elevations and prospective drawings not so much, it is pointed out, as models to be copied but as indicating the lines along which desirable, inexpensive houses may be built. These provide for houses of detached, semi-detached and four-family type with the accommodations as follows:

Four-room type: Living room, kitchen, 2 bedrooms and bathroom, or living room, dining room — kitchenette, 2 bedrooms and bathroom.

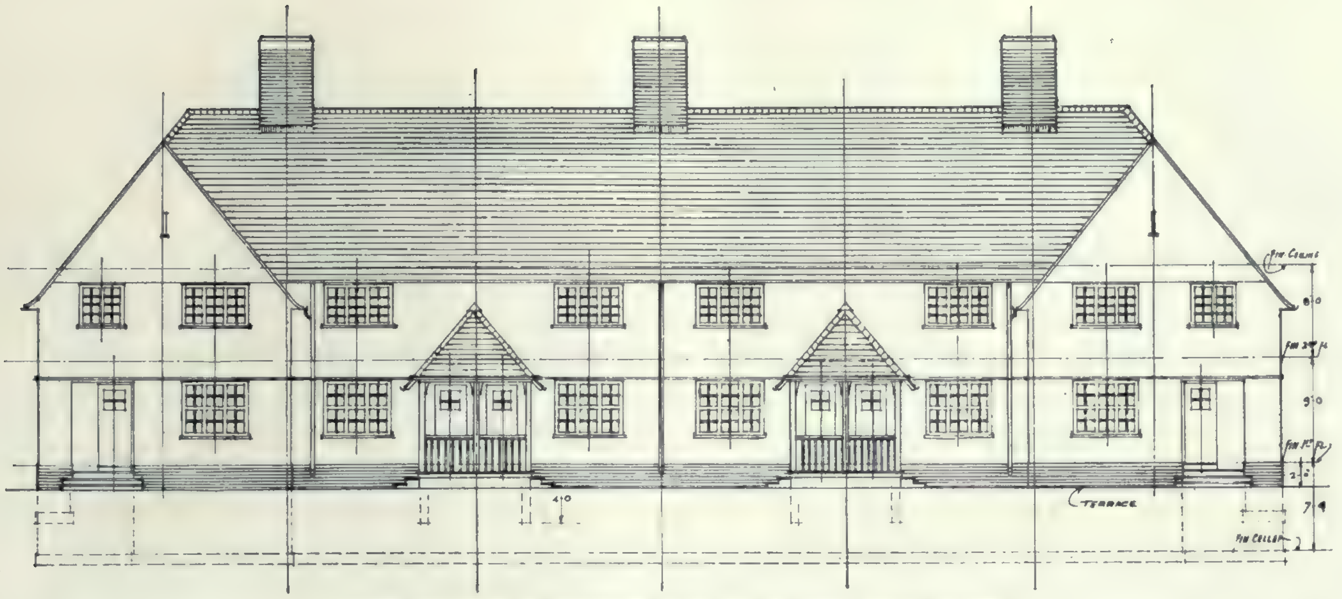
SUGGESTED SCHEME FOR FIVE ROOM SEMI-DETACHED HOUSE.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



FRONT ELEVATION OF SUGGESTED FOUR AND SIX ROOM GROUP HOUSES.

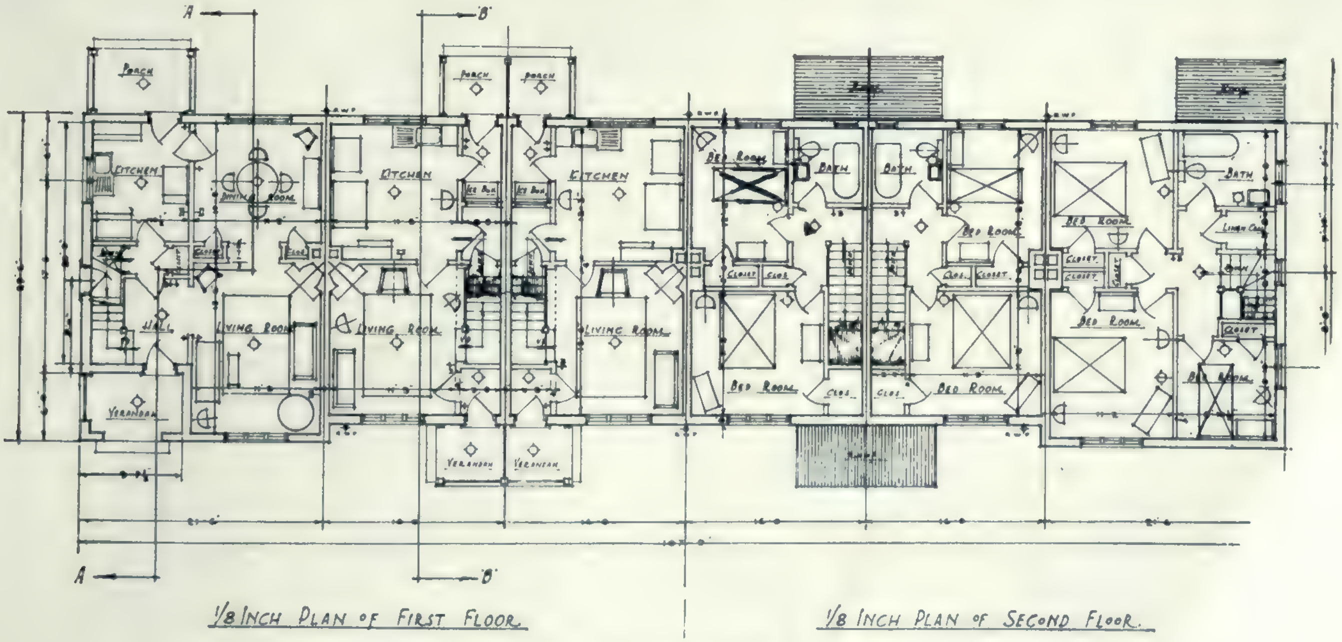
PERSPECTIVE VIEW SHOWING ABOVE GROUP HOUSE AND DETACHED DWELLING IN RELATION TO SITE.

Five-room type: Living room, dining room — kitchenette or kitchen and 3 bedrooms and bathroom.

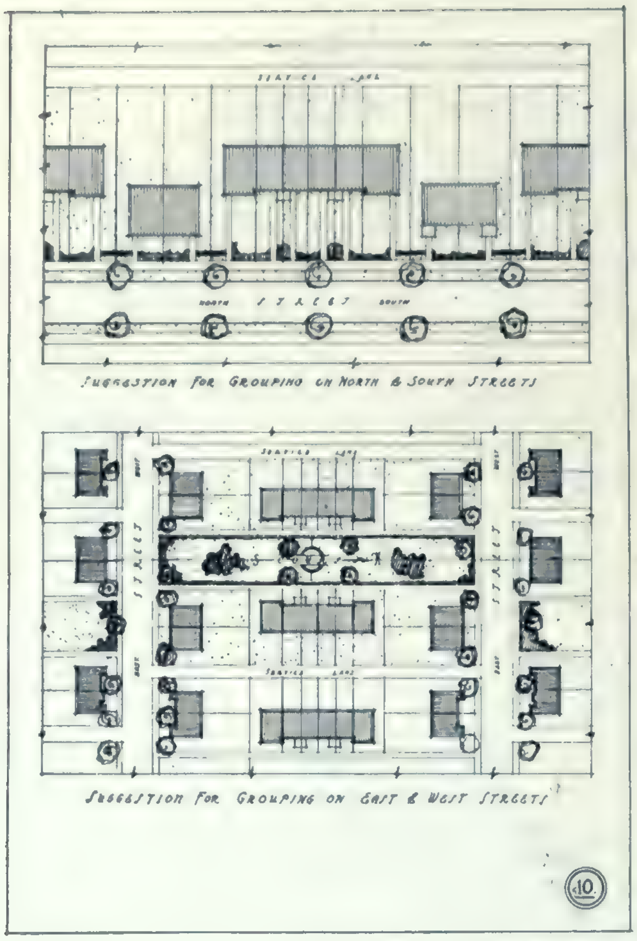
Six-room type: Living room, dining room, kitchen and 3 bedrooms and bathroom.

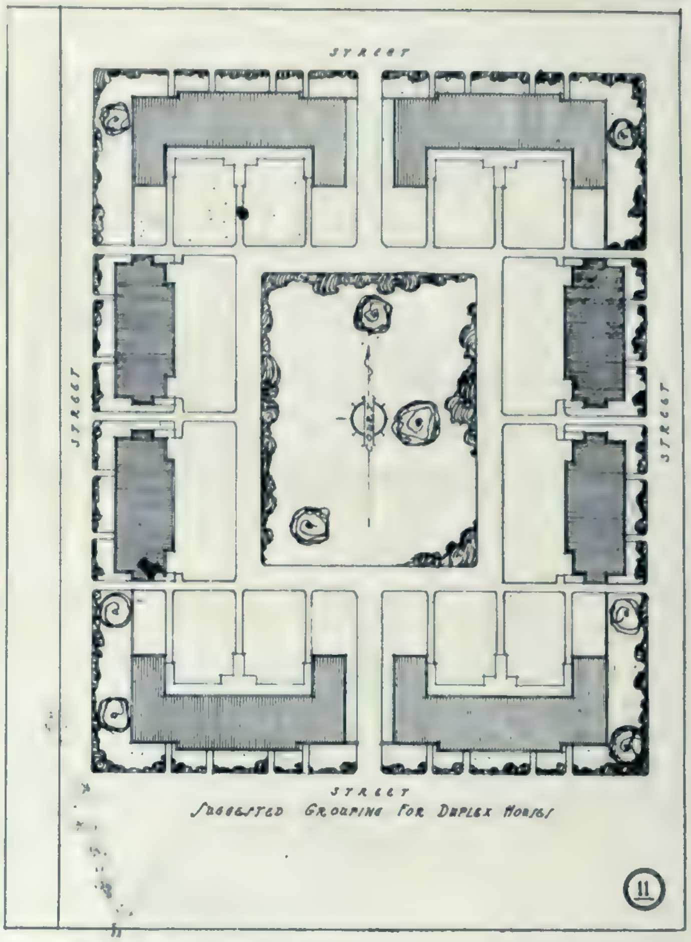
In the commercially built dwelling house of the past, according to the report, the mistake has been made of providing too many and frequently too small rooms, while sufficient attention has not been paid to the use of the rooms provided and their place in relation to one another.

Recognition of these facts and a careful study of the actual requirements have suggested that houses ranging from four to six rooms are best suited to the

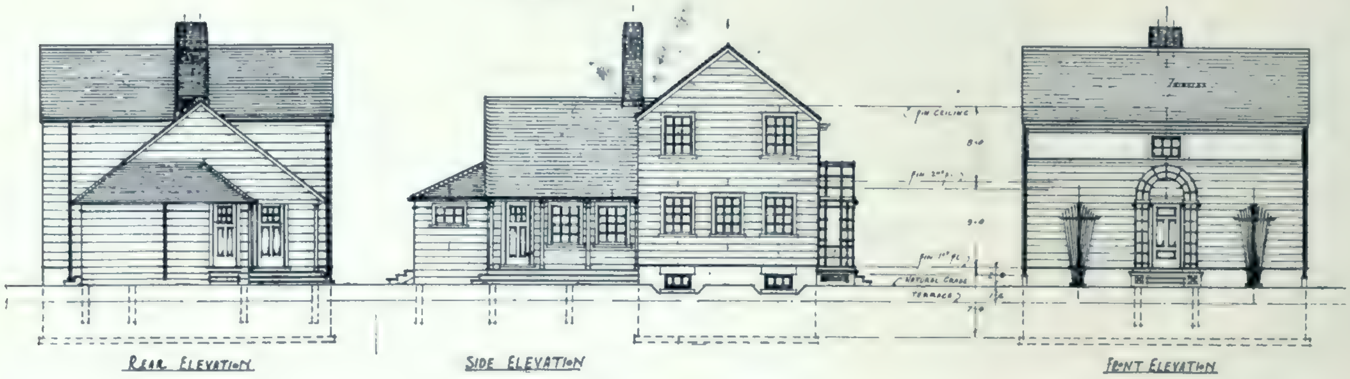


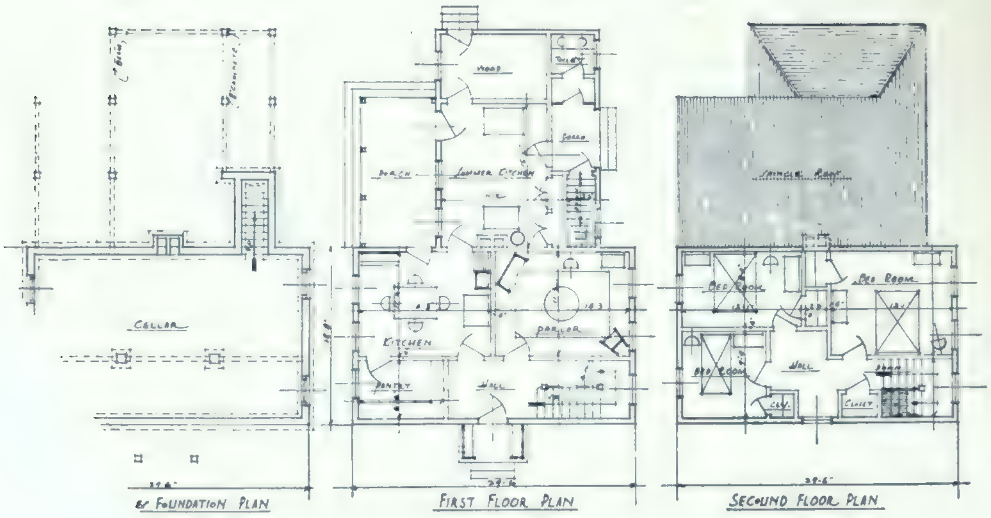
FLOOR PLAN OF SUGGESTED FOUR AND SIX ROOM GROUP HOUSE.


Service Lane
North
Street
South
Suggestion for Grouping on North & South Streets
Service Lane
East
West
Street
Street
Service Lane
Suggestion for Grouping on East & West Streets
10



SUGGESTED SCHEMES FOR GROUPING HOUSES.





DWELLING
FOR
FARM
HELP.

ONTARIO
HOUSING
COMMITTEE'S
SCHEME.

needs of the average workman. Of these it is felt that the five-roomed type containing three bedrooms should predominate. The four-roomed type, providing only two bedrooms, is suited only to a workman with no family, or to a workman with a small family. One of the most important on the list of essential items is the provision of a bedroom for parents and a separate bedroom for children of each sex. This in many cases requires the minimum of three bedrooms, and is the reason for a greater need of five-roomed houses.

MEDIUM SIZES OF ROOMS.

Minimum sizes of rooms have been determined as follows, although it is felt that it will be possible to exceed the dimensions given in most cases:

Living room, ...	144 sq.ft.	narrowest dimension	11 ft.
Dining room	120 sq.ft.	" "	10 ft.
Kitchen	80 sq.ft.	" "	8 ft.
Kitchenette	50 sq.ft.	" "	6 ft.
Bedroom No. 1 ..	120 sq.ft.	" "	9 ft.
Bedroom No. 2 ..	100 sq.ft.	" "	8 ft.
Bedroom No. 3 ..	75 sq.ft.	" "	7 ft.
Bathroom	35 sq.ft.	" "	5 ft.

OPEN SPACES.

In reference to open spaces it is proposed that the rear of the house should at least be fifty feet from the rear of the lot, and that projecting steps or verandahs in all new developments should not be nearer than twenty feet to the street pavement or roadway. Space for gardens, and space for children to play in, are also recommended, with open fences, or preferably hedges, to enclose the property. Community allotments and playgrounds are deemed desirable where local conditions are favorable, or where houses are erected in groups. It is also recommended that a space of at least twelve feet should be preserved between houses or group of houses in all new developments; also in the case of houses with side windows, other than those from the stairs, hall or pantries. Where the size of the lot is fixed, or where existing buildings interfere and a narrower space is unavoidable, the passage is to be at least four feet wide, without windows other than those from stairs, hall and pantries. For houses of frame construction, either in whole or in part, an intervening space of at least fifteen feet is proposed.

Duplex houses or cottages are recommended only as a substitute for tenements, with a restricted height of two stories and a depth not to exceed three rooms, except the end house of a duplex group which may be four rooms in depth.

GROUND AREA AND POSITION OF HOUSE ON SITE.

The report further suggests that in all new developments the aim should be to at least equal the English standard of twelve houses to the gross acre in urban centres, and eight houses to the acre in less populous districts.

Consideration is also given to the desirability of placing each house on its site so that all rooms will receive direct sunlight during some portion of the day. On streets running east and west this can be accomplished by placing group houses at right angles to the street, so that rooms will have an east and west exposure, similar to the scheme suggested in Drawing 10. Variation in the exterior of the houses themselves and the frequent breaking of the building line is recommended as a means of avoiding a monotonous effect due to regularity of frontages.

In reference to the rear portion of the property the report states that "there is nothing which more thoroughly expresses the civic spirit and the community attitude towards housing and town planning more than the treatment of spaces at the back of buildings. Unfortunately, it seems to be forgotten too frequently that the outlook from many houses must be on the back of houses opposite, and since they are not seen from the street, nor by the public generally, too often no attempt is made to make the rears even presentable. By limiting the houses in groups to two rooms in depth, and detached and semi-detached to three rooms, deep court will be eliminated, and by exercising a little care in the arrangeemnt and design, the rear can be made as attractive as the front."

Other features of the report deal with materials and equipment, closet space, height of ceilings, plumbing, heating, door and window openings, etc., all of which show close investigation into a many sided problem.

Brick is deemed the standard by which other wall construction is judged, and reference is made to hollow tile as a satisfactory and economical material and to the use of precast concrete construction or hydro-stone blocks such as is being used extensively on reconstruction work at Halifax, as well as to clapboarding, patent wall board and stucco finish.

The fact that the fixed cost of a dwelling built with money loaned by the Government is not to exceed $2,500, is necessarily an important governing factor as regards the matter of accommodation. The object is therefore to provide standards for well built and well planned houses within the amount mentioned. In regards to the living rooms, it is pointed out that there is little real objection to a kitchen dining-room if a second room is provided for general use. In fact it is contended from the housewife's point of view, that the arguments are entirely in favor of such a combination, provided the room is of sufficient size. "The ideal arrangement would seem to be a combination providing a kitchen alcove, or kitchenette, opening into the kitchen proper or dining room. The kitchenette would accommodate such apparatus as combination sink and laundry tub, stove, hot water boiler, and working cabinet, which contains space for the cooking utensils."

As the household duties of a workman's house devolve "upon the shoulders of one woman, it is important that the relation of the rooms to one another, and the conveniences within the rooms, should be planned to lighten those duties. Under such convenience the bath-room may be included. Three bedrooms have already been suggested as the minimum, except for the smallest type of house. It will be found, however, that to provide three bedrooms, bathroom, closets, and necessary hall space on an upper floor, the first floor will be unduly increased in area, and consequently will constitute an extra, unwarranted charge upon the tenant. It is suggested that in some cases the bathroom may be placed on the first floor with a saving of expense and work, and generally with advantage, providing that the arrangement of rooms and stairs is such that privacy is not sacrificed. The workman's wife with a family of small children will appreciate the saving in steps which such an arrangement will insure. In addition there is the equally important saving in cost, due to simplified plumbing and the ease with which a bathroom may be heated. This suggestion has been developed in the plans submitted."

The committee lays special stress on the need and desirability of the services of the architect in carrying out work of this character, especially where a development involving the construction of a number of dwellings is contemplated. In fact the completeness of the present recommendations which will undoubtedly lead to regulations forming the basis of a number of attractive developments, as well as the commendable types of houses suggested in the drawings, is due to the co-operation of architects and others, regarding which the committee gives acknowledgement.

The plans submitted with the report were prepared under the committee's supervision by Mr. H. R. Dowswell, A.R.I.B.A., co-operating with the firm of Messrs. Banigan, Mathers and Thompson. Valuable suggestions were also received from Messrs. Burke, Horwood and White, Messrs. Shepard and Calvin, Messrs. Eden Smith and Sons, and Mr. J. P. Hynes.

In the preparation of standards the committee also acknowledges the assistance rendered by a committee of the Ontario Association of Architects, consisting of its President, Mr. C. H. Acton Bond, Mr. J. P. Hynes, Mr. R. K. Shepard and Mr. A. F. Wickson, and the following ladies and gentlemen who were called into consultation: Mr. W. S. B. Armstrong, Mr. A. Chapman (architect), Mrs. H. B. Dunnington Grubb, Mrs. L. A. Hamilton, Mr. A. S. Mathers, Mr. P. H. Mitchell, Dr. Margaret Patterson, Miss J. M. Robson and Mrs. J. E. Wetherell. The committee also had the advantage of consultation with Mr. Thomas Adams, Town Planning Advisor to Commission of Conservation, Ottawa.

Elimination of Waste in Building Codes

(*Continued from page* 78.)

have since adopted reinforced concrete codes, the provisions of which indicate that many of these magnificent and amply safe buildings should be unsafe and should have collapsed the moment the laws became effective. Such is law. Why?

Codes are generally made for the worst conditions of incompetent architectural and engineering designing and inspection and bad construction by dishonest and incompetent contractors. This is a sad commentary on the efficiency of the administrative ability of American cities and the standing of the related professions. This theory of law-making is entirely wrong.

Laws should be made for the best conditions and *effectively administered.* It does not speak well for the architects, engineers and contractors that they have quietly labored under these false assumptions of the building codes and it is now time that they should assert their true place in the political economy of this country as competent and honest men. A building department of any city which thus admits its inability properly to enforce the law and conserve the interests of the citizens should be dismissed at once and replaced by those who can effectively administer wise and proper laws.

A city which has an improper building code is handicapped and its growth hindered by the burden of useless costs incorporated in building construction. The intelligent investor in such projects will locate in such cities that make it possible for him to secure an adequate return for his investments to which every investor is entitled. It needs no argument to substantiate the fact that the state of the building industry in any community is the index of its prosperity. It then behooves those who have the interests of the industry at heart, architects, engineers, contractors, material producers, realtors and citizens generally, to make the proper revision of building codes now the first order of business.

POST-WAR HOUSING.

(Continued from page 85.)

the necessary capital to ensure the purchase of material at a value that will safeguard the borrower and the lender.

I would also like to ask if it is the intention to place a maximum on the amount of the loan to any one individual.

Mr. Adams: With regard to the particular scheme just outlined, it would hardly be proper for me to make an observation, because it might be in conflict with the notions of the authorities, but it seems to be a very reasonable proposal. At the same time, it will depend on what attitude the provincial authorities take in the matter.

If you take Ontario as an example, they are proposing to lend the whole of the cost of building provided the borrower owns the lot. In other words, if I own a lot worth $500, I can borrow $2,500 at 5 per cent. to build a house.

You might think that 5 per cent. money is not such a very great catch for the borrower, but if he went to a private lender to borrow the whole of the cost of his house he would have to pay 8 or 9 per cent. More than that, he could not probably borrow above two-thirds of the money. The real benefit to the workman in a case of that kind cannot be represented by the difference between 5 and 8 per cent., which is $1,200 over a period of twenty years. If I give you the money to build a $3,000 home or a $2,500 home at 5 per cent., I am giving you $1,200 over twenty years as compared with what you could raise the money for from a private lender. This means the Government's offer is about 20 per cent. on the cost of building.

I do not believe the individual home-builder can compete with a comprehensive scheme. I think the Ontario Government is doing a good thing in saying that if a man has a lot they are prepared to lend him the money to build on it, subject to its being an improved lot and in a healthy location.

All things considered, if a man has to go to different places to buy his few bricks, and his timber, his doors, his windows, his hardware, and so on, perhaps without any knowledge and without any practical experience, surely there must be something wrong if we could not compete with him by building fifty or one hundred houses, with all the advantages of wholesale buying and wholesale planning and proper architectural advice. In other words, it will pay that man better to sell his lot at a loss and enter the comprehensive scheme, if we carry out the comprehensive scheme satisfactorily.

While we must encourage the individual to build his home on his own lot, yet the most successful method will be when we do it in a very large way, if we apply business principles to it.

You also asked as to the maximum amount. In reply to that, I might tell you that the Ontario Government says "$2,500 for the house and $500 for the land." I think probably the Dominion Government will proceed on a different basis, and will suggest that the maximum for a certain class of construction, say frame, brick veneer, or stucco and frame, shall be $3,000, and if the house is built of stone, or concrete, or hollow tile, with fireproof roof and a proper foundation, it shall be, say, $4,500. It is really improper to offer one sum of money for any kind of construction, and I think the Federal Government is likely to offer a higher sum for the permanent construction, so as to encourage that class of construction being carried out.

It is better policy for a man to borrow $5,000 to build a small five-room permanent house that will last for forty or fifty or sixty years, rather than that he should put up a frame house which is only a temporary structure.

Mr. Dandurand: Is it really the intention of the Government to discourage the building of two-family houses? I ask the question because that seems to be the accepted thing in Montreal, especially for the workingman, who feels that if he has a two-family house he may live in one part of it and get a certain revenue from the other which will help him to pay for it.

Mr. Adams: On the contrary. I stated the fact that the Committee of the British Government had recommended that the cottage home was, taking everything into consideration, the most economical, and that even the two-storey flat was less economical, and that the tenement was still worse. There was, however, this qualification (and it would also apply to Montreal), the Scottish people have developed a sort of habit of living in tenements. Newcastle is in a class approaching Montreal. Newcastle lives in the same kind of houses as Montreal does—a two-family house, one flat below and one above. That, of course, is taken into consideration, and they say: "We believe in the single house, but, of course, we must recognize local peculiarities. It may be difficult, of course, to reach our ideal.

I had a gentleman from Montreal in to see me the other day, and he suggested that there should be tenements built to satisfy the conditions in Montreal. I said: "Surely the kind of houses which the people of Montreal will use is very much better than the tenement. We may try to get some of them to live in separate homes, but, in any event, we should encourage them not to build houses higher than two storeys, even if they have separate flats, and I think by all means we should encourage them not to do so." Of course, they might do it so long as we could not show them something better in the way of a detached home.

It is all a matter of practical demonstration. If the people of Montreal insist on living in that class of house because of the necessity for conserving heat and the difficulty of getting domestic service, there are certain advantages in the flat and the apartment house. If you have four houses together in one block, two below and two above, they are very healthy kind of houses, and when one is newly married and has only small children there is, perhaps, nothing better.

I do not think we should try to discourage what was the local habit, except by means of practical demonstration. We would not say, "We will not help you to build that class of house," but I think we would say, "We will try to show you something better." At the same time, it is really a matter for the provinces, and not a matter for us.

The Chairman: There was a teacher trying to get the children in her class to tell her the meaning of "M-o-u-s-e," but they did not seem to realize what it meant, so she said: "What is that funny little thing that comes creeping up the stairs in the middle of the night, not making the slightest bit of noise?" and a little girl said, "Why, that is papa."

I do not want you to get into that category, and as the evening is getting late, I think we will bring the meeting to a close.

Mr. Brown: Before we disperse, I think a hearty vote of thanks should be offered to Mr. Adams, Mr. Stewart, Mr. Dandurand, Dr. Atherton and Dr. Hodgetts for the pleasant, interesting and enjoyable talk they have given us this evening.

Mr. Archibald: I have very much pleasure in seconding the motion, and in doing so I might, perhaps, be permitted to say that the Province of Quebec Association of Architects has been fully awake to the problems of the occasion, and if there is a Civic Improvement League in the city of Montreal to-day it is due to the efforts of the Province of Quebec Association of Architects. Fourteen or fifteen years ago that association started an improvement in the city of Montreal. We went ahead for about two years, thanks to the donation of a certain gentleman in the city, and certain plans were brought forth. About a year ago those plans were decorating the ante-room of the Council Chamber in the City Hall.

Shortly after the thing got going it became what you might call a social function. It belonged then to Sherbrooke Street, and from then on the Province of Quebec Association of Architects has been put aside. I am accustomed to talk frankly, and I will talk frankly now. We started the movement, and we were prepared to continue it.

Mr. Adams stated that there was not a proper plan of the city of Montreal. Up to the last few months this was perfectly true. There was not a complete plan of the Island of Montreal in the civic chambers. I am glad to say, however, that there is a plan now, not showing all the hedges and ditches, but showing the streets, with their proper widths, and the street car tracks, etc., as well as where the railways run, and where they do not. This plan has been in existence since the month of April last, and we have loaned blue prints of it to the city of Montreal.

If you are going to do anything in the city of Montreal in the way of improvement of housing conditions, or improvement of anything else, one of the most important steps you could take would be to prohibit the land speculator from buying up farm land and sub-dividing it. To my mind, that is the crux of the whole situation. I sat for two hours this morning with a delegation which wanted street car connection, and for a mile and three-quarters the city plan showed streets crossing the tracks where our plans showed no connection. I could show you thousands of lots north of Mount Royal Avenue where streets put in by land speculators run into the middle of the lots. Those plans are registered, and what can you do about it? You cannot do anything, so far as they are concerned, but you can stop anything of the kind in the future.

I think a commission should be appointed to study the whole question of the sub-division of the Island of Montreal, and no sub-division should be registered unless it gets the sanction of some commission or some authority appointed by the Government.

The Chairman: In Ontario we have an Act which prohibits anyone holding land within five miles of the city limits from sub-dividing that land without the sub-division being approved by a committee, so that we are a little ahead of you in that way. On the other hand, we could show you all sorts of tangles in Toronto resulting from each man wanting to do what was right in his own eyes, and where the consequence was confusion—streets that abutted into long blocks, so that delivery waggons would have to spend the greater part of a day going around to a house on the other side of the block. This has been stopped now, and I hope you will have it stopped here.

Mr. Dandurand: I quite approve of what Mr. Archibald says. For years I have been advocating the borough system of London, by which there would be a council of the whole Island of Montreal, to which all plans should be submitted, for subdivisions, water mains, drainage, etc. One municipality should not be allowed to lag, a 20-inch sewer, for example, where a 36-inch sewer might be needed, and the streets should all be laid out harmoniously. An alternative to the borough system would be to have a commission with authority to regulate all such plans as are submitted.

It sometimes happens that with the best intention in the world people have laid out farms in a way which did not line up when other sub-divisions were made. Perhaps I have been guilty of this myself, because I have sold 24,000 lots of the city of Montreal. We lay out the plan in the best way we know how, but later on the city grows, and our plan does not correspond with the growth. Anybody is liable to be mistaken, even after giving the matter the most careful consideration. For instance, they expected Washington to grow in a certain direction, and, as a matter of fact, it grew the other way, and the newer part of the city overlooks the back of the Capitol.

When they built the New York City Hall someone proposed that it was not necessary to go to the expense of making a stone wall in the back, because it was never expected that New York would grow beyond the City Hall. Everybody knows what the result has been.

It is important that there should be some proper control. Of course, it is late now, but it is better late than never.

The Chairman: The motion before the chair is that a hearty vote of thanks be extended to the several gentlemen who have addressed us this evening. I do not know that it is necessary for me even to put this motion to you, because I can plainly see it is the unanimous opinion of everybody present that we have had a most interesting and instructive address and discussion.

The motion of Mr. Brown, seconded by Mr. Archibald, was carried amid applause.

The Chairman: I think you will all agree with me that we have had a very good and successful convention this year. I hope our next one will be as interesting. If there is no further business before the chair, I will declare the meeting closed.

And the meeting thereupon adjourned.

Opens Office for Practice at Windsor

Mr. Hugh A. Beaton has opened an office for architectural practice in the Royal Bank, Windsor, Ont. Catalogues and trade literature are desired from manufacturers and supply dealers, especially as regards materials and equipment for apartment houses.

Architectural Refinement

(*Continued from page* 76.)

past ages, and the architect who actually experiments, as Mr. R. M. Butler has done, may do so with the knowledge that his designs cannot, in any case, suffer in the process, since the differences in setting out are exceedingly slight. Any means which serve to concentrate our attention on the effect of the whole rather than on that of detail will probably serve a useful purpose, for excessive concentration on detail has spoilt many otherwise excellent buildings, and mathematical accuracy is now so easily obtainable that it is likely to become the designer's snare.

The broad statement that we incline to be over-influenced by what seems at first sight to be far-fetched and strange, rather than to accept the obvious, is made manifest to anyone who attends lectures on architecture, or, indeed, any form of art. We certainly like to attribute emotions and ambitions to the great artists of the past that they probably never experienced. If Benvenuto Cellini had not given himself away by writing a book, we might have imagined him as a man who was entirely immersed in high conceptions of his art, uninfluenced by mere mundane considerations, and the lives of most of the architects of the Renaissance, as exposed in contemporary literature, are often prosaic and commonplace compared with the golden web of fancy we weave round them. It may be that, if we dispensed with these golden figments of the imagination, we should lose much pleasure, but it is possible that we should find ourselves in more complete harmony with the life we are part of, and better fitted to make our contribution to its wants. Meanwhile, we have only suggested, with diffidence, theories which may be entirely disproved, and are quite ready to acknowledge our complete conversion to the true faith, whatever it may be.—"The Architect," London.

Architectural Competitions

By Thomas Crane Young.

(Reprinted from "The American Architect.")

If the architectural profession is ever to place itself on an equality with other established professions in standing and dignity before the public, it will be necessary to purge from itself some of its inherited practices and customs which serve no proper purpose in the conduct of the business of building under modern conditions. Probably the so-called Architectural Competition, whether of the illegitimate "wild cat" variety or as conducted by orthodox methods under the Code of the American Institute of Architects, has had greater effect in preventing a unity of effort in the professional ranks, and perhaps has done more to create an unfavorable public opinion than any other traditional custom.

It would seem quite ridiculous to request a dozen or so of lawyers to prepare a brief in a given case at law, or a like number of physicians to diagnose a disease and outline a course of treatment and then submit the same for judgment to another practitioner, who might perhaps be no better qualified to decide on their respective merits than any of the contestants.

The actual cost of producing conventional competition drawings is very great and out of all proportion to their usefulness. The aggregate of expense in a single competition often reaches into tens of thousands of dollars and assumes enormous proportions when one considers the amount so spent annually by the entire profession. All this is pure waste for the many who lose and largely so for the few who win, as equally effective results might be obtained by less expensive methods. While in other professions and lines of business every effort is being made to eliminate unnecessary waste, architecture seems to be the only one which deliberately permits and encourages it.

The object of a competition, according to the Code, is the selection of an architect, not a plan. In theory each competitor is selected because of his proved ability to conduct the work should the choice fall on him. It should be unnecessary that the problem be worked out ten or twelve different ways in order to effect a final choice. It would save the futile effort of the unsuccessful and in view of the original selection, accomplish the purpose equally well were the final choice to be decided by lot.

Quite recently the practice has been defended by one high in the councils of the Institute as a regrettable, though necessary, concession to the gambling spirit inherent in the human race. His designation of the practice is unquestionably correct, though why a dignified professional body should find it necessary to condone this or any other vice is difficult to understand. In most straight gambling games the chances of gain or loss are supposed to be equal, but in the

(*Concluded on page* 96.)

CONSTRUCTION

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INTERESTS · OF · CANADA

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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

Entered as Second Class Matter in the Post Office at Toronto, Canada.

WESTON WRIGLEY, Business Manager
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Vol. XII Toronto, March, 1919 No. 3

Toronto School Competition

Schools are important and necessary buildings in any community and should therefore embody the highest element of architectural thought. Consequently in calling for competitive plans for the erection of two new schools, the Toronto Board of Education has taken a decidedly progressive step. It represents a change in policy which is more than justified by the importance of the structures to be built and the additional new schools which the city will be called upon to provide. Heretofore the planning of work of this character has been done by the Board's own drafting department under the supervision of the Superintendent of Buildings, but evidently the conclusion has been reached that better results can be obtained under the system which is at present being inaugurated. However, in adopting competitive methods the Board has at the same time in no small measure nullified its good intentions by failing to appoint duly qualified assessors to pass upon the designs. There is no doubt but what this will greatly limit the number of contestants, and hence deprive the competition of some of the best available talent. In view of this it would seem advisable on the part of the trustees to revise the terms of the programme so as to conform with governing conditions generally approved by the architectural fraternity. Toronto, of necessity, must carry out a large amount of delayed school work in the immediate future and the aim should be to gain the interest of competent designers with a view to securing a plan which might serve as an architectural model for all subsequent buildings.

◆

Ontario Housing Enactment

The Housing Act which has just been passed by the Ontario Legislature is an important measure which will at least afford some degree of relief to the housing situation by giving financial assistance to those who desire to build and own their own homes. By the enactment between $10,000,000 and $12,000,000 will be available for this purpose, and as the first step of its kind in Canada it constitutes an experiment of decided economic importance. While the Act does not contemplate anything as comprehensive as town planning, it nevertheless initiates a policy susceptible to enlargement in that direction and may eventually resolve itself into a town planning act. The principle feature of the present legislation is that it provides means whereby workmen, returned soldiers and others owning a piece of land, or having funds equal to 10 per cent. of the total investment, can build and own their own homes on the basis of what they are otherwise required to pay in rent. In furtherance of the object in view, certain standards are to be established in reference to the design, arrangement and sanitary equipment of the houses coming within the Act. These are dealt with more fully in the recommendations of the Ontario Housing Committee published elsewhere in this issue, and provide for inexpensive houses of a very desirable and commendable type which, if carried out along the lines suggested, will be a credit to any city.

◆

The production of asbestos in Quebec Province in 1917 reached 137,242 tons, valued at $7,198,558, as compared with 133,339 tons, valued at $5,182,905, for 1916. The percentage increases were 3 per cent. in tonnage and 38.9 per cent. in value. The average price per ton rose to $52.45, as compared with $38.87 in 1916, $31.33 in 1915, $26.96 in 1914 and $28.04 in 1913. The output was hampered by shortage of labor, but 2,634,410 tons of asbestos-bearing rock were mined and hoisted during the year.

Architectural Competitions

(*Continued from page* 94.)

competition game, even of the most orthodox variety, this proportion is seldom reached. Let us take, for example, one in which ten contestants are selected, presumably of equal standing and ability, the chance of success can only be as one to ten, and with a larger number of competitors the proportion must be correspondingly decreased. Nor are the stakes inconsiderable, for even in the respectable "paid" competition the individual cash investment often runs into thousands of dollars. As a sporting proposition, it is about on a level with shooting loaded dice, and, of course, as a conservative business venture it can have no standing at all. The feuds and rivalries so frequently engendered by competitions can only spread demoralization among architects and the business world can have but little respect for a "profession" where employment in a serious task may be determined by the issue of a game of chance.

A more serious matter is the effect of this unfortunate custom upon the young, for in them it encourages the idea that sudden fame and fortune may easily be attained through a brilliant architectural *tour de force* or stroke of genius as a substitute for the slower processes involving continuous study and work, which is usually the price of success in other walks of life.

Our system of education may be somewhat at fault, the schools having (unconsciously, no doubt) fostered a false idea of the purpose for training and the ends to be attained thereby. They have, as it were, cultivated an elaborate and ornate handwriting with too little regard for the thought to be expressed. Neither has the atelier system borrowed from France been more successful in the improvement of American architecture because it encourages imitation of French forms without adaptation to American conditions. Thus architectural "rendering," so expensive and so useless, has become the goal of effort for the student architect instead of the physical substance of the completed building which is the architectural idea expressed through the refractory medium of steel and brick or stone. These elaborate architectural drawings, often exhibiting wonderful workmanship, cost thousands of dollars but have no value as works of art, for they cannot be sold in any market for the price of a song. In contrast with this, the "artist" may take a dime's worth of paper and a pencil and, perhaps, produce a picture worth a substantial fortune. A better instance of misdirected energy than the former case presents could scarcely be devised.

Quite recently an eminent architect, in a public address, defended the Architectural Competition as a means of injecting a little excitement and zest into an otherwise hum-drum existence. One can scarcely think that any of the champions of the ancient Code who have yet spoken have been sincere or themselves shown a high degree of respect for their chosen calling or of the "high ideals" of which they prate so much.

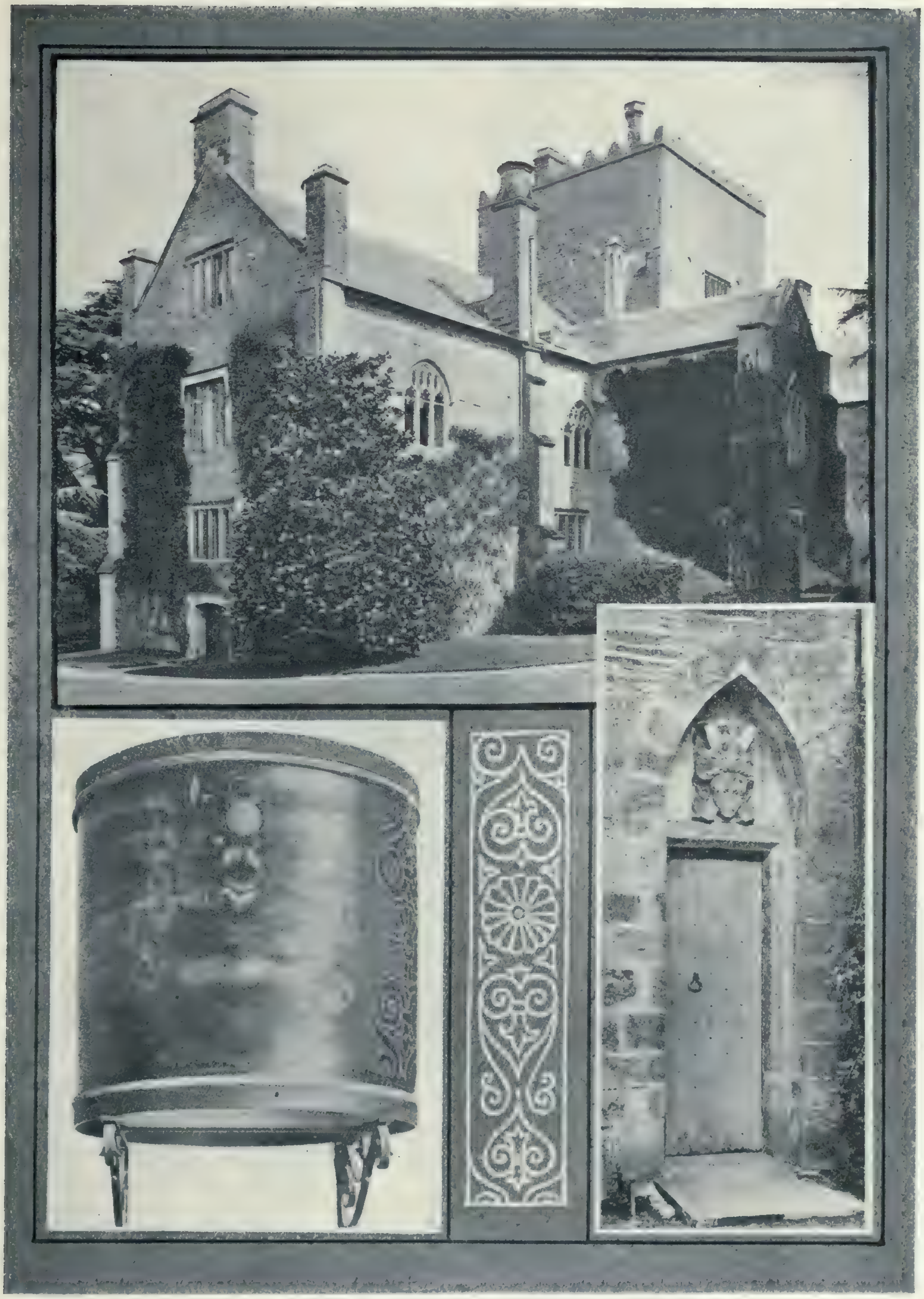
Future of Jerusalem's Architecture

Jerusalem's architectural, political, economic and social future is outlined in the "Spectator," London. As a result of the great change which has put new life in its veins, it is written:

"The Moslems find comfort in the British assurance that the town planning scheme now afoot will not touch the ancient city within the walls. This scheme does not altogether please the Jews, for it involves the destruction of hundreds of the hideous erections which have arisen outside the walls of late years—shops and dwellings which have ruined the approach to Jerusalem. For the Jew, with all his artistic temperament, is not studious of architectural symmetry, and centuries of Ghetto life have not inspired him with much domiciling taste.

"The plans for the new city have been drawn by Mr. McLean, chief engineer of Alexandria, who was responsible for the Khartoum improvements. Among the chief features of the Jerusalem plans is a splendid boulevard running from the southwest toward the old city, intersected by an arboreous rond-point containing the British War Memorial. In future all buildings are to be in keeping with the local character; no more red roofs, no more flaunting gilded domes and other Neo-Byzantine atrocities. That eyesore, the Kaiser's clock tower, is to come down. The Holy City is hereafter to preserve her architectural soul secure from outside violation, and with this security, may become one of the most beautiful, as it is the holiest, the most ancient, and the most interesting city in the world.

"Jerusalem is giddy with prosperity. The British 'Tommy' is here, and a Pactolian stream of piastres floods the shops, bazaars, the very gutters. None so meek, so dull, so unenterprizing but can divert some of this torrent; and Turk, Jew, and Gentile, shopmen, curio-sellers, restaurants, cabmen, guides, photographers, artisans, hucksters, barbers, shoeblacks, and beggars, are enjoying an affluence they have never known or dreamt of since King Solomon's day. Jerusalem in war time has become very much like one of the numerous febrile, army-infested towns of Northern France, and in her streets a thousand allurements, from cheap jewelry to pink ice cream, appeal irresistibly to the passing thousands of dust-covered soldiers."



AN HISTORIC HOME IN DEVON.

Buckland Abbey, Devonshire, is one of the historic homes of England, where Sir Francis Drake spent the latter part of his life. The upper picture shows the south-east view of the abbey; on the left is "Drake Drum," which, tradition says, sounds whenever England is in danger; on the right is the doorway with the head of Amicia. This lady was a Countess of Devon, who, in 1278, founded the house for Cistercian Monks.

CONTRACTORS and SUB-CONTRACTORS

As Supplied by the Architects of Buildings Featured in This Issue.

ROYAL CONNAUGHT HOTEL, HAMILTON, ONT.

General Contractors, Stone & Webster Company.
Cement, Canadian Cement Company, Ltd.
Stone, Canadian Crushed Stone Company, Ltd.
Sand, A. Cope & Son.
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Reinforcement, The Steel Company of Canada.
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Ornamental Iron, Dennis Wire & Iron Works, Ltd.
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Plumbing and Heating, Drake-Avery Company; J. L. Mott & Company.
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Electric Light Fixtures, Black & Boyd Manufacturing Company.
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OFFICES OF ARCHITECTS SPROATE & ROLPH, TORONTO.

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Vault Doors, J. & J. Taylor Safe Works.
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THE IMPERIAL OIL CO. GASOLINE STATIONS, TORONTO.

General Contractors, Witchall & Son.
Carpenter, W. Henry, Albertus Ave.
Painting, Taylor & Company, 9 Bloor East.
Galvanized Iron and Roofing, Feather & Roadhouse; George Duthie & Son.
Plaster Work, Andrew Petrie & Company, Roxton Road.
Plumbing and Heating, Sheppard & Abbott.
Electric Wiring, Ramsden & Roxborough; R. A. L. Gray.
Brick, Russell & Co., Blake Avenue.
Electric Fixtures, F. C. Henderson.

ANNOUNCE CHANGES IN STAFF.

The C. A. Dunham Co., Ltd., Toronto, announce that a change has been made in their branch sales office at Montreal. Mr. A. Kastello, recently superintendent of construction for the Imperial Munitions Board at Trenton, and formerly with the Dominion Government and Grand Trunk Railway, has been installed as new branch manager in charge of their office at 711 New Birks Building.

Mr. Kastello is to be assisted in the company's growing business by Mr. F. O. Hamel, as heating engineer, formerly first assistant engineer in the Public Works Department of the Dominion Government at Ottawa.

The C. A. Dunham Co., Ltd., are very optimistic over the prospects of building activity, and this change has been made to strengthen their organization and to render better service to their trade and clients in Montreal.

This company has experienced a very healthy growth during the war period through wider use of its product under conditions requiring more efficient heating methods.

STEEL FACTORY AND SHOP EQUIPMENT.

High-grade furniture steel has proven most adaptable and versatile in the construction of factory and shop equipment, such as cabinets, shelving, stock-room partitions, lockers for employees and for material, etc., and is fast being adopted by Canadian firms generally.

There are many reasons for the universal use of steel in such items of equipment, chief among which are its quality of being fireproof, its capacity to bear heavy weights, its apparent indestructibility, its capacity for standardization, permitting a concern to start with a small amount of steel equipment and add other uniform pieces as requirements demand, and its low ultimate cost as compared with wood.

The Dennis Wire & Iron Works Co., Ltd., of London, Ont., have pioneered in this industry in Canada, and have achieved for their well-known line of factory and shop equipment a very high reputation for quality and durability. This firm has just recently made an important installation at the plant of John Bertram & Sons Company, Dundas, Ont. In the warehouse for small tools alone, this company had no less than one-tenth of a mile of shelving installed, with bin fronts, label holders, etc., besides a great many stacks fitted with drawers for small drills, taps, etc., aggregating a total of some 1,200 drawers, each with label holder to indicate contents. These stacks are built to carry extremely heavy weight on account of the nature of the material stored. The standard type shelving and drawers was used in anticipation of the necessity of adding similar units from time to time.

All this equipment was planned and installed so that the stacks, instead of being placed along walls, run out from the walls to the centre of the warehouse, leaving passageways between, and the layout is such that between each row of stacks there is a window, providing sufficient light and air. All stacks extend the same length, and the whole presents a most orderly, uniform appearance, and will make the task of stock-taking comparatively simple.

For the same firm, the Dennis people are installing some 200 steel wardrobe lockers for the use of employees, besides complete equipment of steel tables, foot-rests, stools, etc., in the drafting room, the whole making one of the most up-to-date installations of all-steel units in the Dominion of Canada to-day.

INDUSTRIAL HOUSING.

Three outstanding features characterize industrial housing at the present time, viz.: (1) The increasing number of projects being completed and carried out; (2) the improvement shown in the matter of design and grouping of the houses, and (3) the substantial type of construction that is being employed in their erection. In an exceptionally large number of cases hollow tile is the material used, making the dwellings sanitary and to a large extent fireproof in character. The National Fireproofing Company's booklet (Bulletin 172), just issued, shows some noteworthy schemes recently developed by industrial companies. The illustrations are of a very high class order and show some very interesting houses of a diversified type. There is an instructive preamble as an introduction to the booklet and valuable information and data as to the material to which it relates. A copy of the bulletin may be obtained from the company upon request.

A recent issue of "Conservation" states that fire waste in Canada is increasing in leaps and bounds. During the first ten months of 1918 the value of property destroyed by fire was 45 per cent. greater than during the same period of 1917, and almost 70 per cent. greater than in 1914. Nearly 79 per cent. of the fire losses, it points out, occurs in large business properties, and adds that good fire prevention strategy should concentrate on factory and business risks.

It was recently announced by Hon. T. A. Crearer, Minister of Agriculture, that approximately one million dollars have been appropriated for the construction of a Government cold storage plant at Montreal. Work on the project, he said, would commence this coming summer, and that the plant when completed, would be one of the most up-to-date and best equipped of its kind in the world.

The Board of Education, Toronto

Architectural Competition

REVISED CONDITIONS

Architects are hereby invited to submit competitive plans and specifications on or before **April 1st, 1919**, for the **John Ross Robertson Public School**, to be erected on **Glengrove Avenue**, and for a **Public School Building**, to be erected on **Glenholme Avenue**.

Conditions of this competition have been slightly revised and corrected copies will be furnished on application to the Secretary-Treasurer, Administration Building, 155 College Street, Toronto.

JOHN NOBLE, M.D.,	W. C. WILKINSON,
Chairman, Property Committee.	Sec.-Treas.

CONSTRUCTION

April, 1919 Volume XII, No. 4

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JOHN BERTRAM & SONS COMPANY'S PLANT, DUNDAS, ONT. 100

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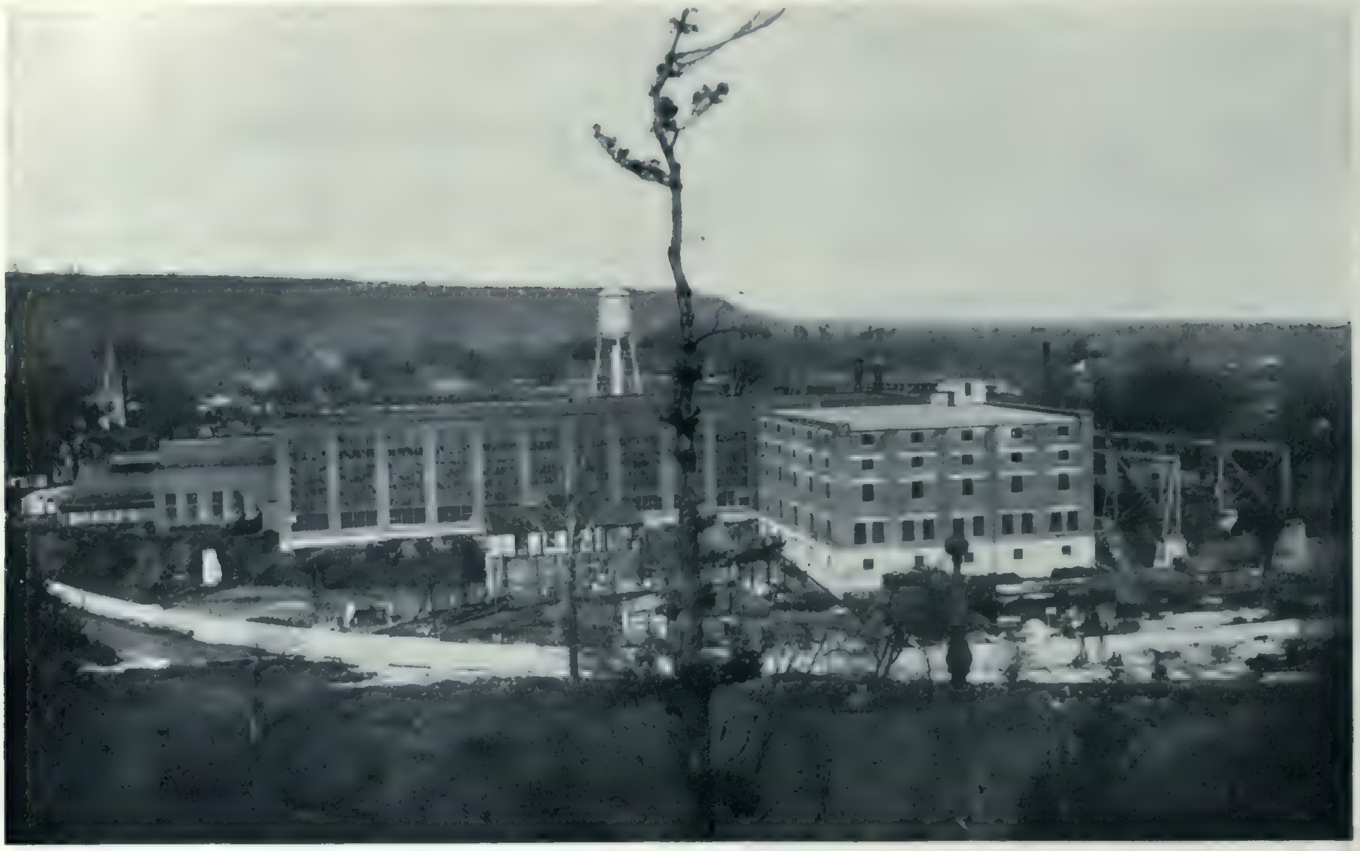
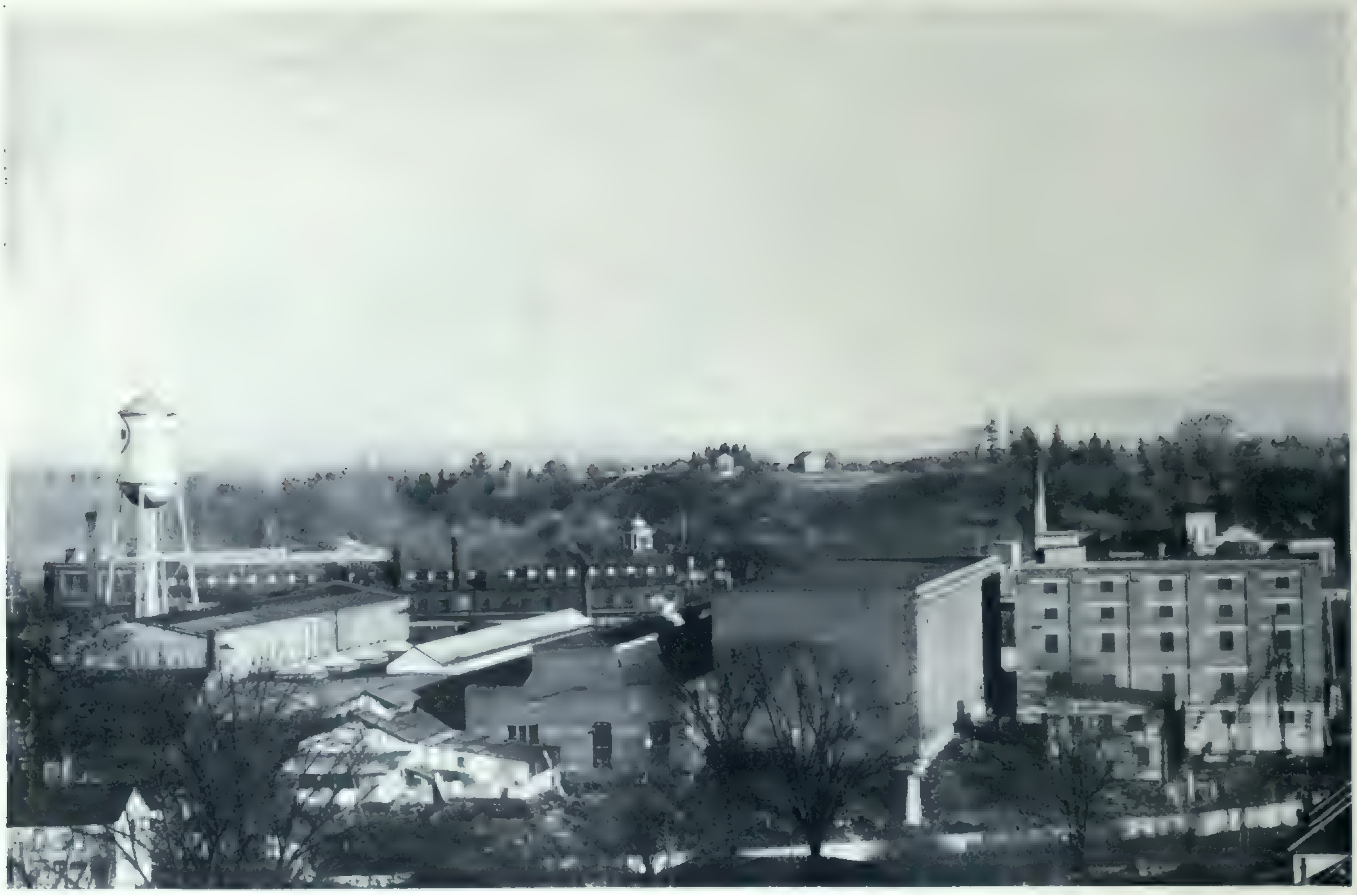
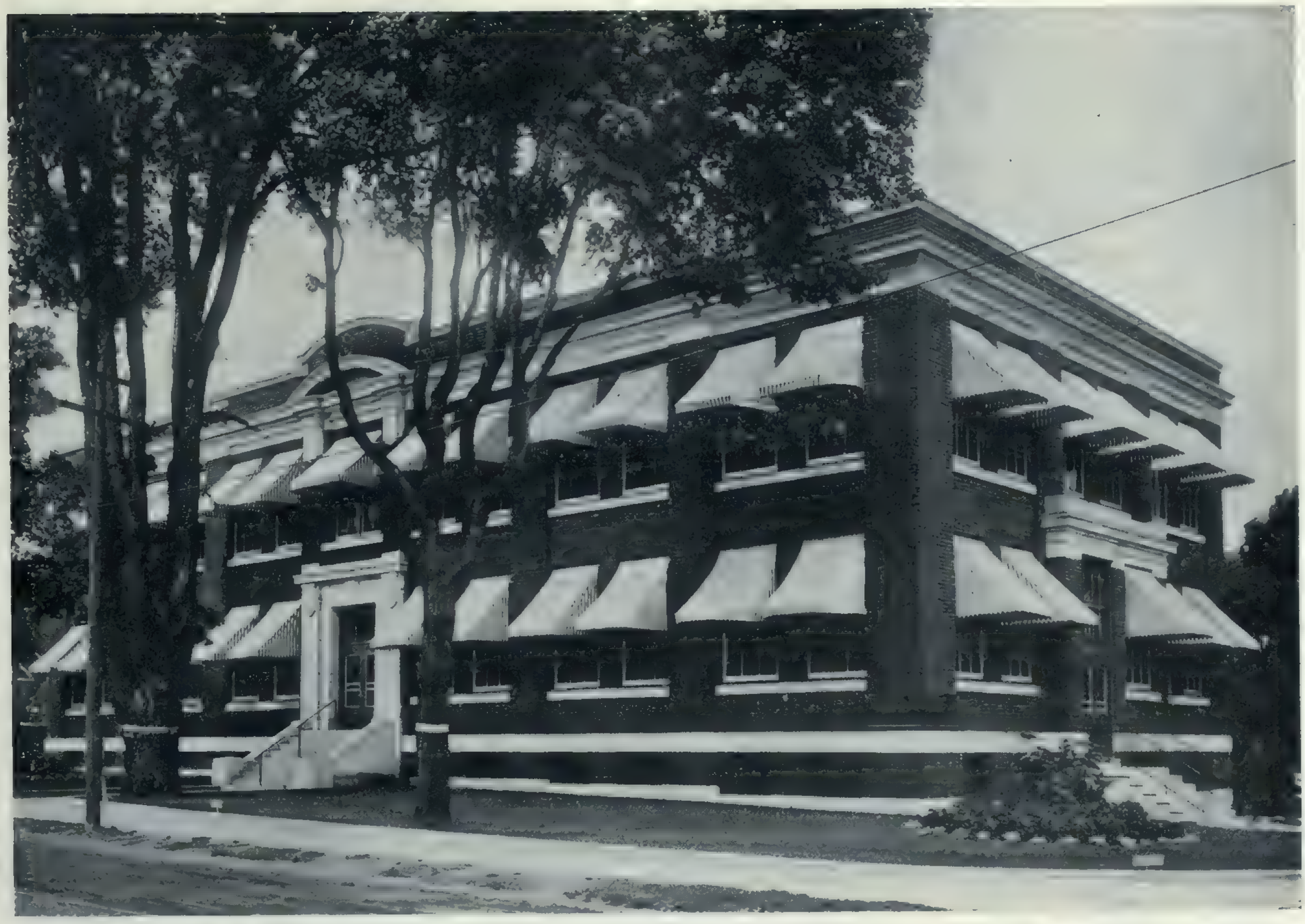


GENERAL VIEW FROM THE SOUTH-WEST.



LOOKING TOWARD THE EAST.

PLANT OF BERTRAM & SONS COMPANY, DUNDAS, ONT.



OFFICE BUILDING OF JOHN BERTRAM & SONS COMPANY, DUNDAS, ONT. HARRIS & RICHARDS, ARCHITECTS.

The Bertram and Pratt & Whitney Plants

DUNDAS, Ontario, has the appearance of a quiet and peaceful valley town, which at casual glance somewhat obscures its industrial prestige. Yet very little investigation reveals plenty of evidence of manufacturing activity. Its two most important firms—John Bertram & Sons, Limited, and the Pratt & Whitney Company—have achieved a prominence as producers of heavy machinery and small precision tools, respectively, which makes them nationally known. The plants of both of these concerns, which are two separate companies under one management, have within the past two years been enlarged to about three times their original size. War orders and the growth of normal trade have made necessary this additional capacity, which in the case of the Bertram plant takes the form of a new lathe shop and storage building, each 320 x 60 feet; a pattern storage building, 102 x 102 feet, and a modern office building, 113 x 55 feet.

These additions have necessitated very careful planning so as to bring the several departments in proper relation to one another, and to provide for a direct routing of the work through the plant. The key of the plan is really an industrial track connecting with the foundry and running through transversely at the centre of the main buildings. This track is served by travelling cranes which do all the heavy lifting and operate the full length in each bay of the various shops. Each casting or part is thus quickly and conveniently handled through the entire process until the finished work finds itself either in the storage building or is placed on the cars ready for shipment.

In addition to this, there is an outside or yard crane of twenty ton capacity travelling on "A" frames, 32 feet high with 60 ft. spans, and having a total length of 400 feet, which serves each of the several structures.

While the Bertram Company has up to recently been engaged in filling important war contracts, it has for fifty years specialized in the manufacture of locomotive and car shop equipment, structural and bridge shop machinery, and repair and general machine shop equipment. It is for the purpose of enlarging the output in these permanent lines that the facilities of the plant have been increased. Besides the several new buildings, the original plant itself has been enlarged, and further additions will shortly be required in view of the present inadequacy of the existing foundry and power

TIME OFFICE. DRAUGHTING ROOM.

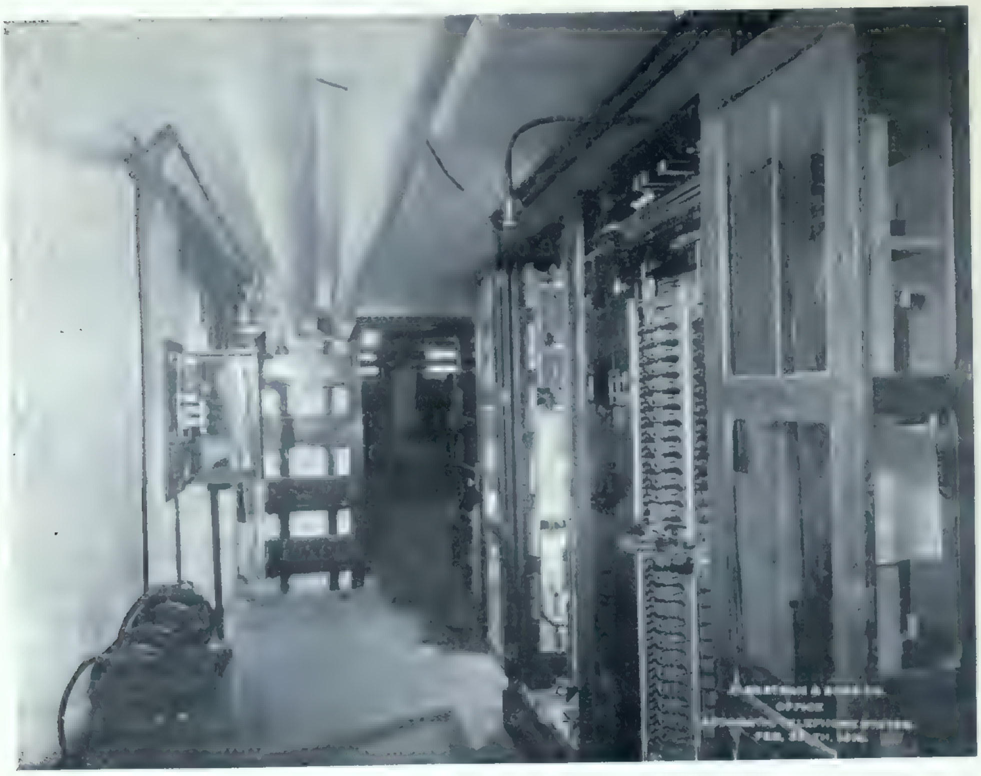
OFFICE BUILDING OF JOHN BERTRAM & SON COMPANY, DUNDAS, ONT.

house, which are heavily taxed by present operations.

The recently constructed buildings are all south of the old portion of the plant. The new lathe shop and the permanent storage building each cover a ground area of 320 x 60 feet, and are built of steel and brick, with concrete floors having three-inch wood blocks laid in pitch. These blocks were laid with no filler between them owing to the trouble which swelling pitch often gives in warm weather. The spaces, or interstices, have been simply allowed to fill up with fine shop turnings and oil, and make a floor with a firm, smooth surface.

The roof of the lathe shop is of the saw-tooth type, while that of the storage building is of three-inch hollow tile, carried on a steel truss and flushed with 2-1 concrete, having a mesh reinforcement which was supplied in 6 ft. rolls. On the south side of the storage building are two galleries 24 ft. wide, running practically the full length of the structure. The floors of these galleries are of one-inch maple, laid on 2 x 4's, nailed together on edge and supported by a 20-inch steel I-beam framework. This storage is used for the storing of finished machines and machine parts, and also as a general stock and shipping-room. It has a 30-ton weighing scale and a 25-ton crane. The upper gallery is recessed at the centre to allow space for crane operations, so that any article of machinery can be laid on the first gallery floor and run either way. In addition to this, the wood railing of the upper gallery is removable for its entire length, which allows the crane to serve this floor at any point.

This storage building has excellent facilities for lighting and natural ventilation, which is, indeed, a noticeable feature of the plant throughout. In this structure, however, the entire south wall, as well as the space rising above the lathe shop, consists of a continuous system of metal sash and wired glass. One can perhaps best realize the expanse of this glass area by taking into account the fact that, in addition to its extreme



AUTOMATIC TELEPHONE SYSTEM.

PROGRESS VIEW SHOWING GYPSUM BLOCK PARTITIONS AND HOLLOW TILE FLOORS WITH CINDER FILL AND NAILING STRIPS FOR HARDWOOD FINISH. OFFICE BUILDING OF JOHN BERTRAM & SONS COMPANY, DUNDAS, ONT.

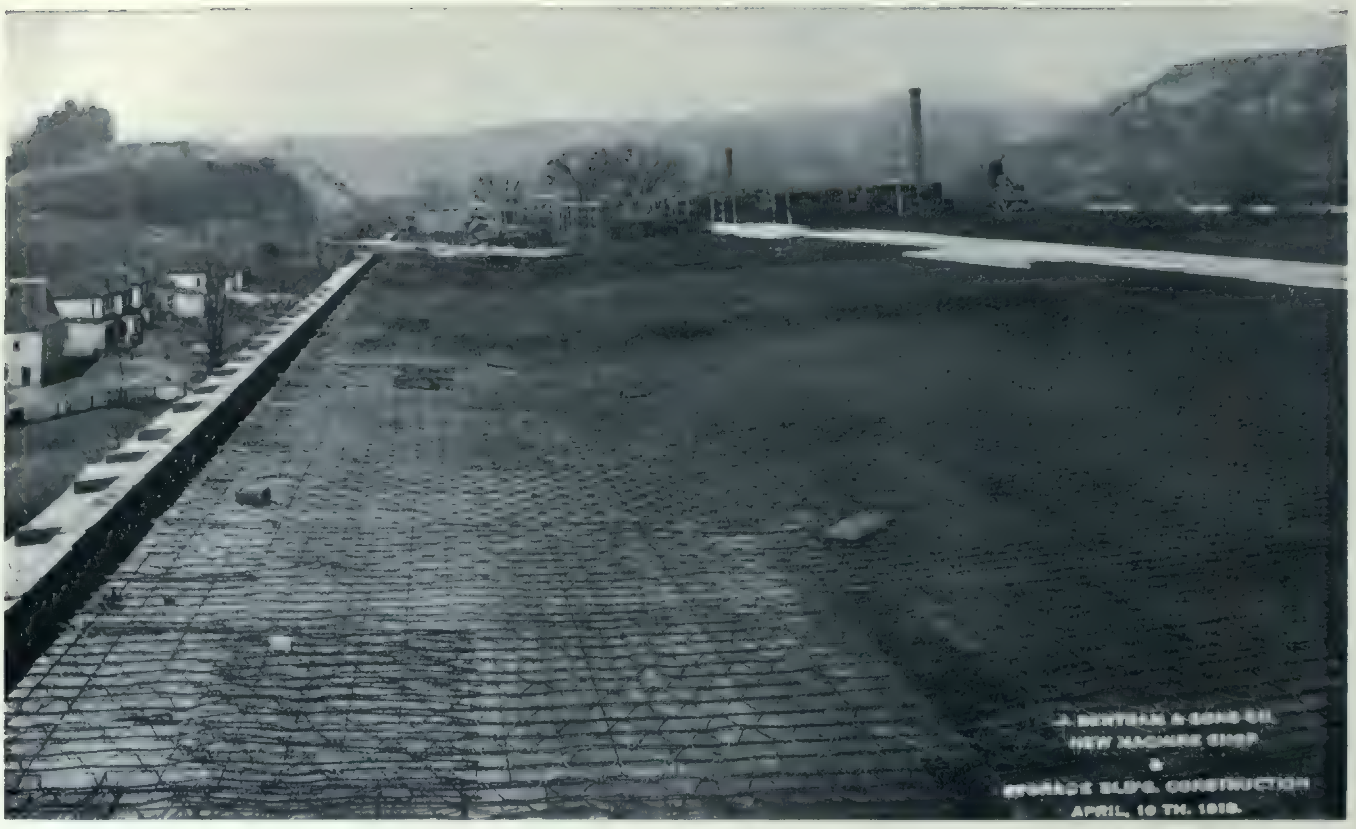
length, the building is 60 ft. high. The lower sash is of the counterbalanced type, while above this are alternating rows of fixed and operating frames, the latter being controlled by chains at the floor level.

The new pattern storage building is located at the south end of the property, and is 102x102 ft. and four storeys high. It is constructed of concrete, reinforced with twisted bars according to the two-way system, and is designed to carry two additional floors. Gypsum blocks are used where partitions are required. On the ground floor is a shop 102 x 40 ft. for making patterns, and a brick-paved driveway, which enables the yard teams to load and unload inside the building. The upper floors, which are served by an electric elevator, are used entirely for the storage of stock and special patterns.

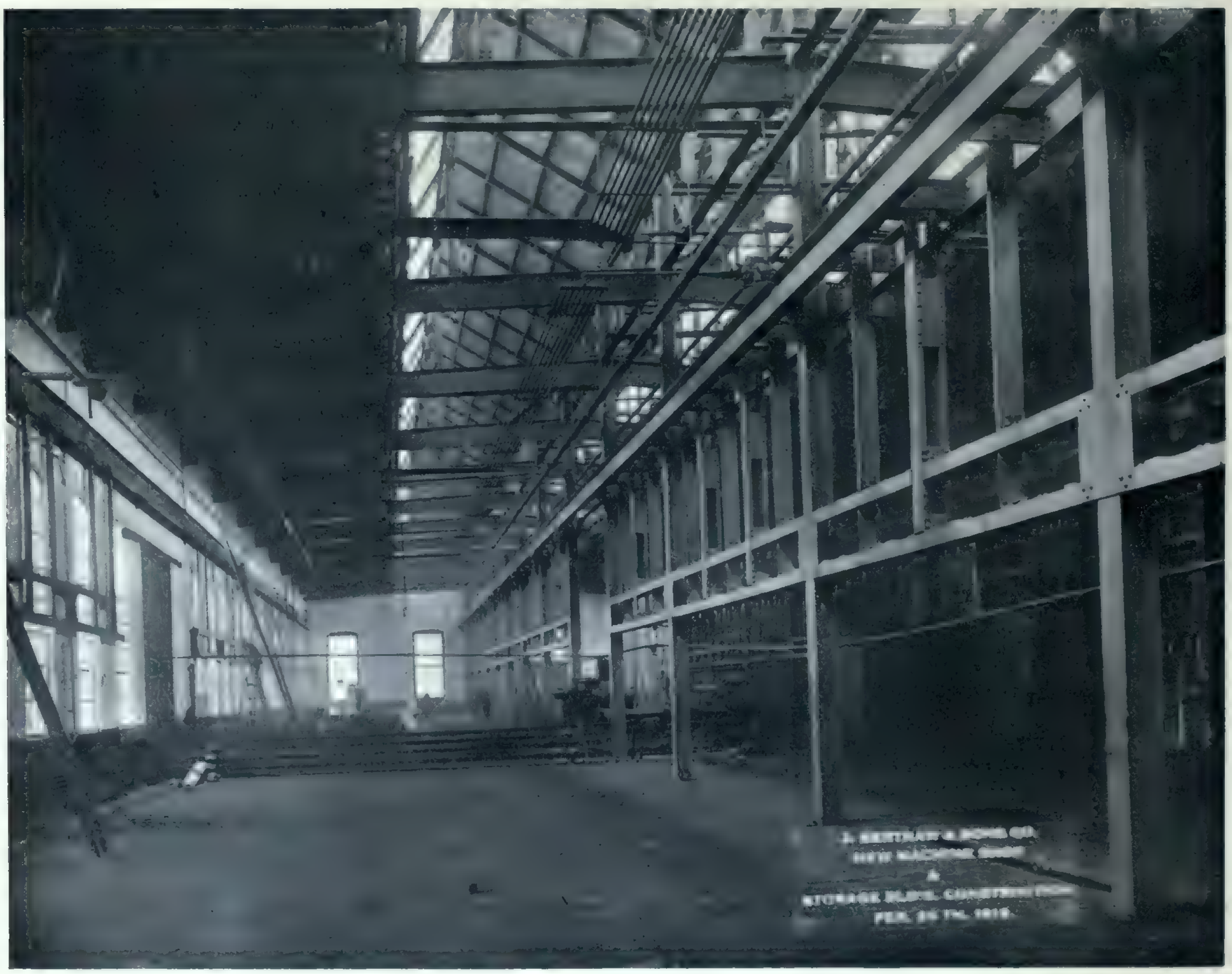
A vacuum heating system heats the various buildings. Drinking fountains, stationary basins and lavatories are provided throughout the plant in connection with each department. All buildings are equipped with an automatic sprinkler system, having an average pressure of 75 lbs., and fed by a water tower of 75,000 gallons capacity. This tower is connected by a 10-inch main to the town's water supply. Hydrants and hose reels are also distributed about the premises so as to meet every requirement for adequate fire protection.

In enlarging its plant facilities, the company has also been placed under the necessity of providing additional accommodation for its office staff. For this purpose a separate building has been erected to the north of the plant on Hatt street. This office building is a two-storey structure, 113 x 55 ft., and is designed to carry an additional storey. Tapestry brick of a soft red color flecked with darker tones and trimmed with granite and Indiana limestone is used for the exterior, and well-kept lawns surround the building. Eighteen large offices are provided, in addition to a board-room, photographing-room and a draughting-room. The partitions are of gypsum block, and the floors are of hollow

BOILERS.



ROOF OF PERMANENT STORAGE BUILDING.



INTERIOR NEW LATHE SHOP.

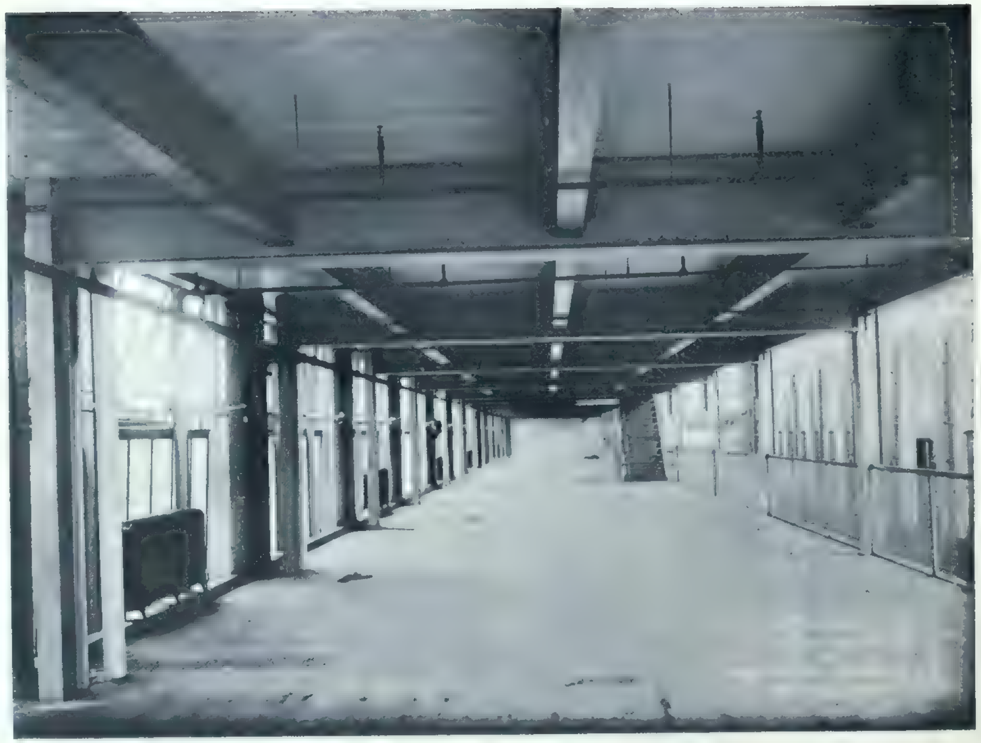
JOHN BERTRAM & SONS COMPANY'S PLANT, DUNDAS, ONT.

PERMANENT STORAGE, JOHN BERTRAM & SONS COMPANY PLANT, DUNDAS, ONT.,

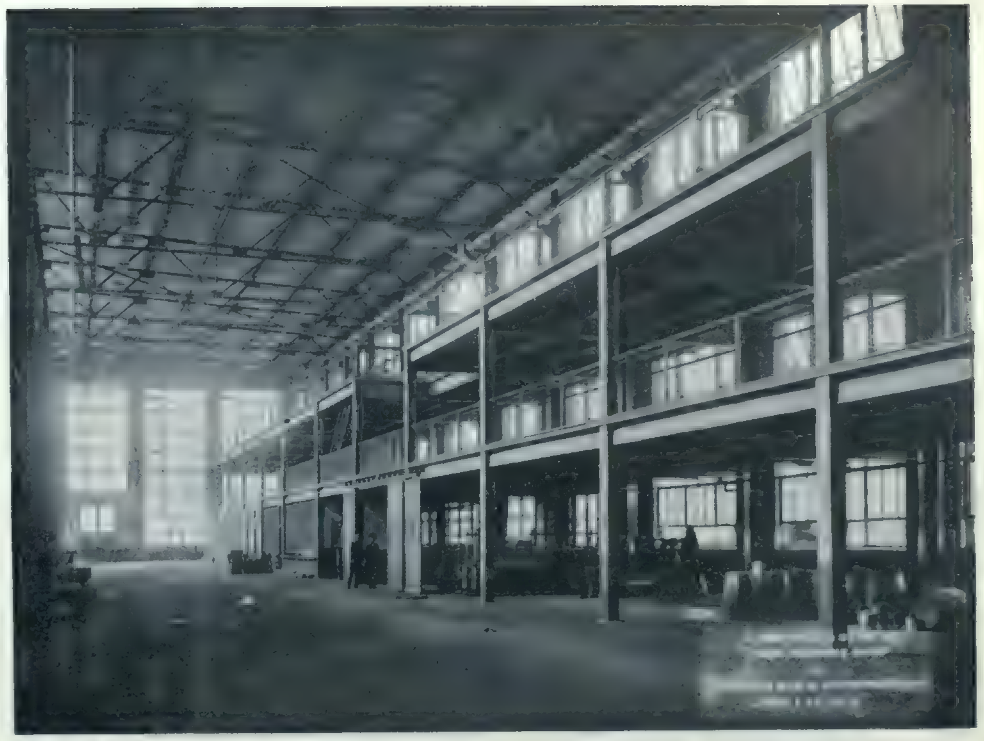
tile with maple flooring above on a 4-inch cinder fill with 3 x 4 inch nailing strips. Terrazzo is used for the floors of the halls, blue print room and lavatories, the latter having Italian marble walls to the height of six feet. The tables and desks in the offices consist entirely of steel equipment, the windows are of the metal sash type, and oak trim and doors are used throughout. The building is equipped with two book vaults, a special vault for the protection of plans and specifications, an automatic telephone system, and time and office clocks having a master clock control. An additional feature is a pneumatic tube system which connects the head office to the Pratt & Whitney building and the main Bertram plant, which is used for the delivering of messages between the several departments.

The Pratt & Whitney building is of flat slab concrete construction, having a two-way reinforcement of corrugated bars, and is devoted to the manufacture of precision machine tools, standard and gauge reamers, cutters, taps, dies and small tools. This work, to a large extent, is done by finely adjusted automatic machines which turns, lathes and tools special high grade steels, and turns out a completely finished product. The structure is 178 ft. long, 90 ft. wide at one end, and 75 ft. at the other, and has three stories and full basement. The concrete floors have a thickness of 8 inches, on which 3-inch plank is laid in pitch and brought to a true level, and finished over this with hardwood flooring. The columns are octagonal in shape and vary from 30 to 24 inches in size. They have 10 ft. square caps reinforced with 5-8 inch rods spaced 12 inches at the floor, with a mat of eight additional 1-2 inch straight rods running each way. The ceiling of all floors have cast iron inserts spaced 30 inches apart for carrying small steel channels to which the hangers supporting the line shaft and counter shaft operating the machinery, is hung. Two electric elevators of 6,000 and 4,000 lbs. capacity at either end of the building serve the various floors. There is also an electrically driven dumb

PERMANENT STORAGE ABOVE ROOF OF NEW LATHE SHOP.



FIRST GALLERY IN STORAGE BUILDING



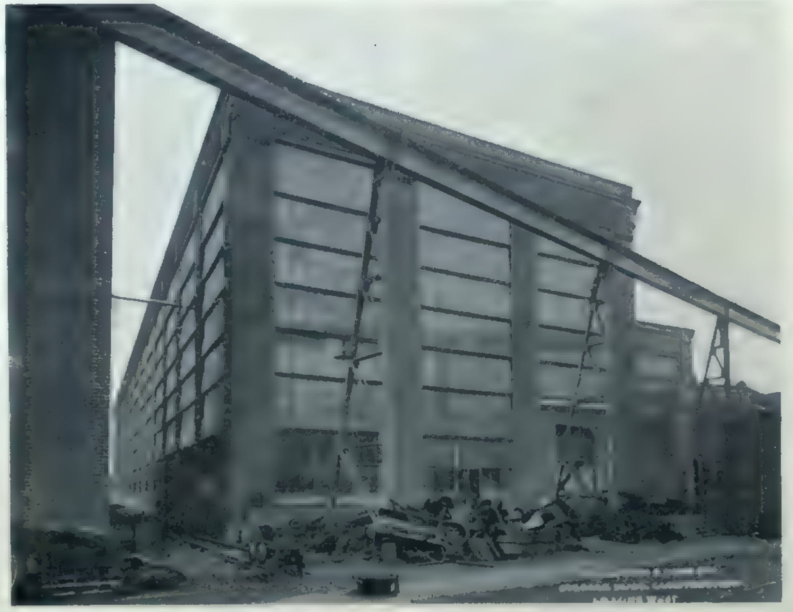
VIEW SHOWING BOTH GALLERIES

NEW STORAGE BUILDING

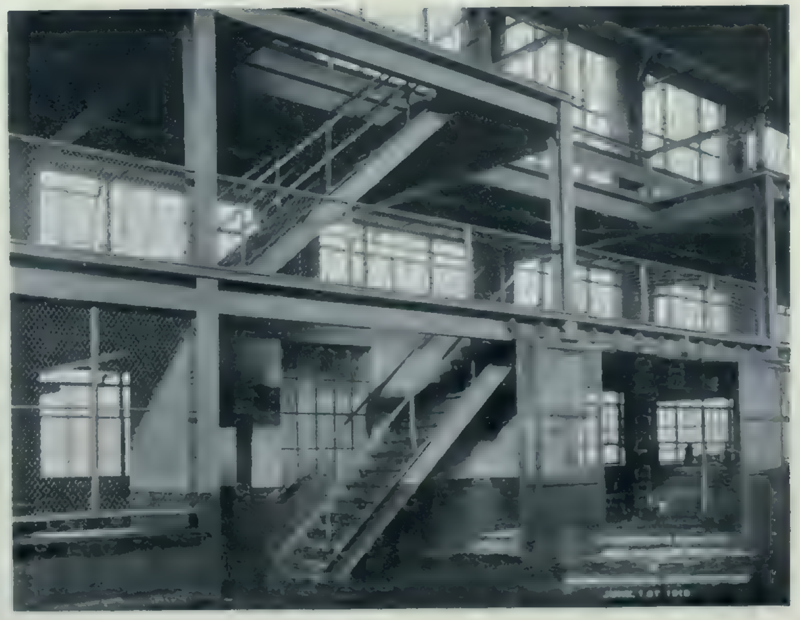
John Bertram & Sons Co.'s Plant

Dundas, Ontario

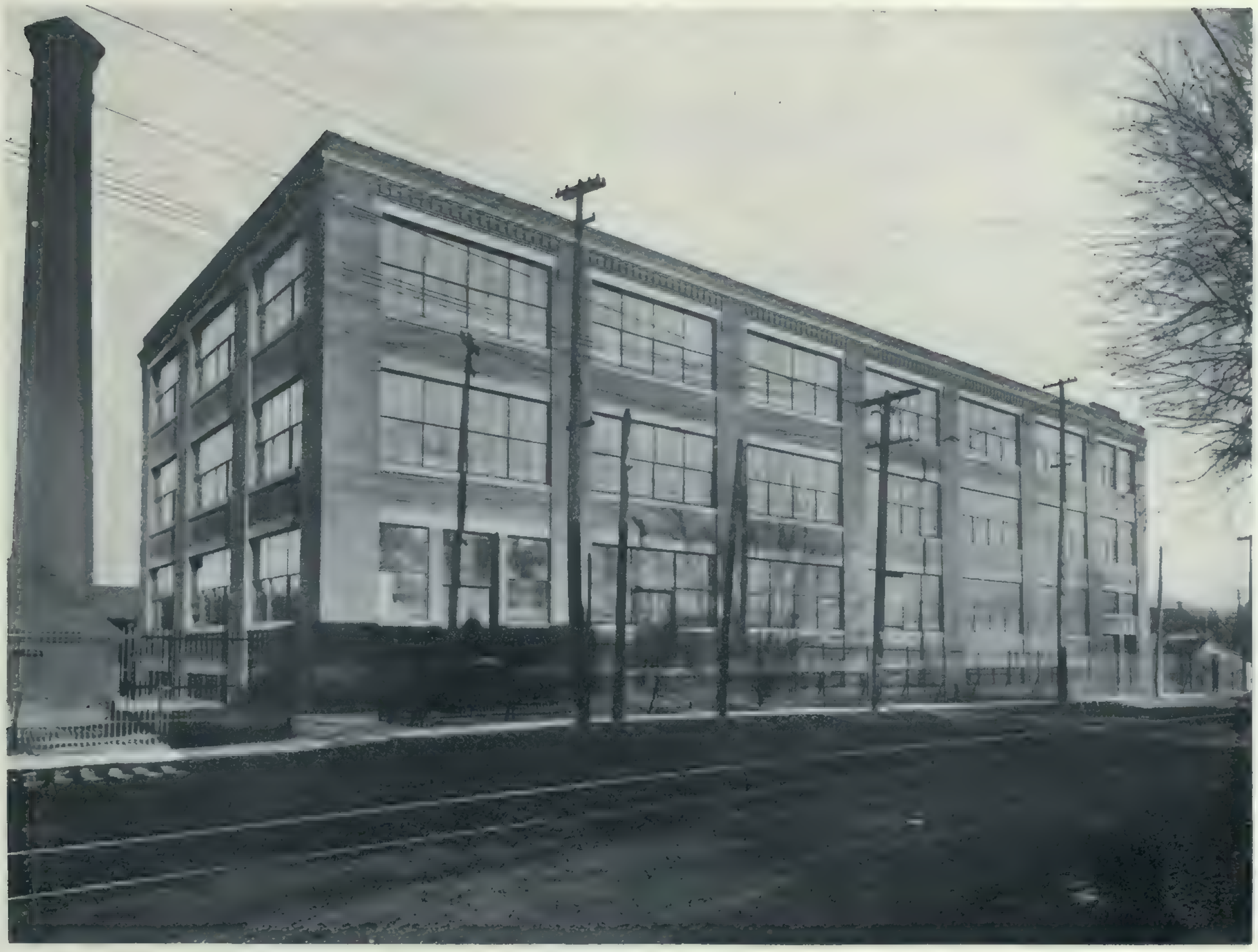
Harris & Richard, Architects.



EAST END OF BUILDING SHOWING YARD CRANEWAY.



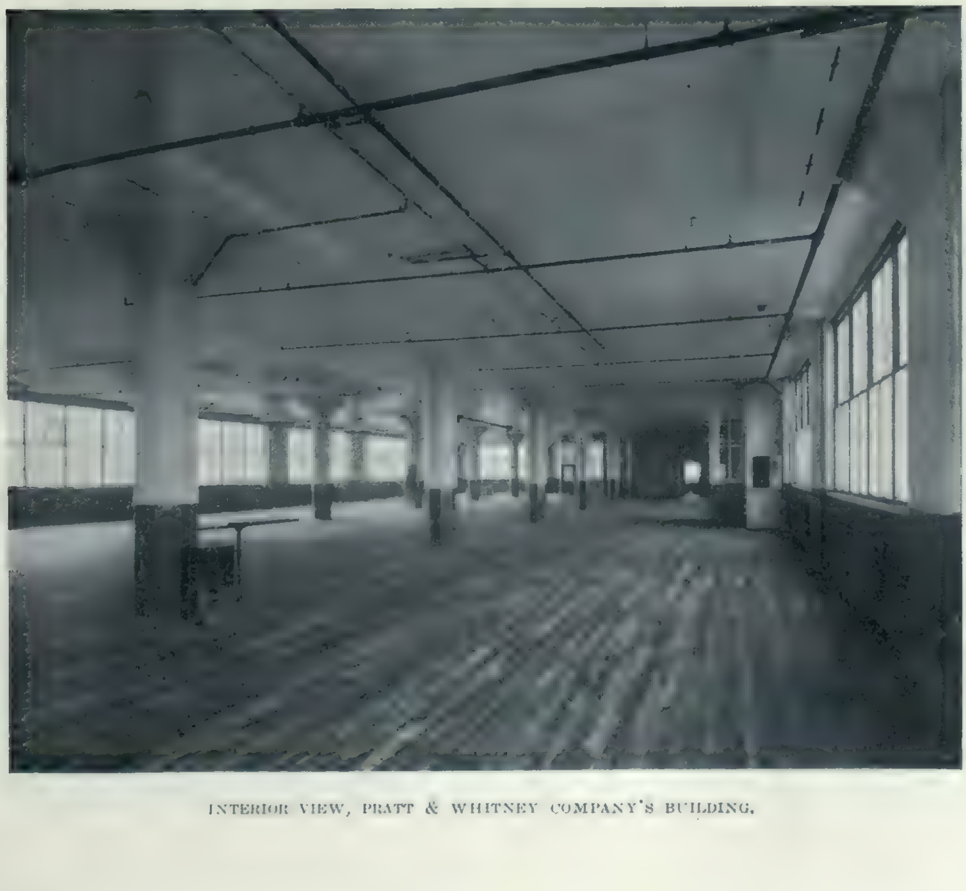
GALLERY ENCLOSURES, AND STAIRS



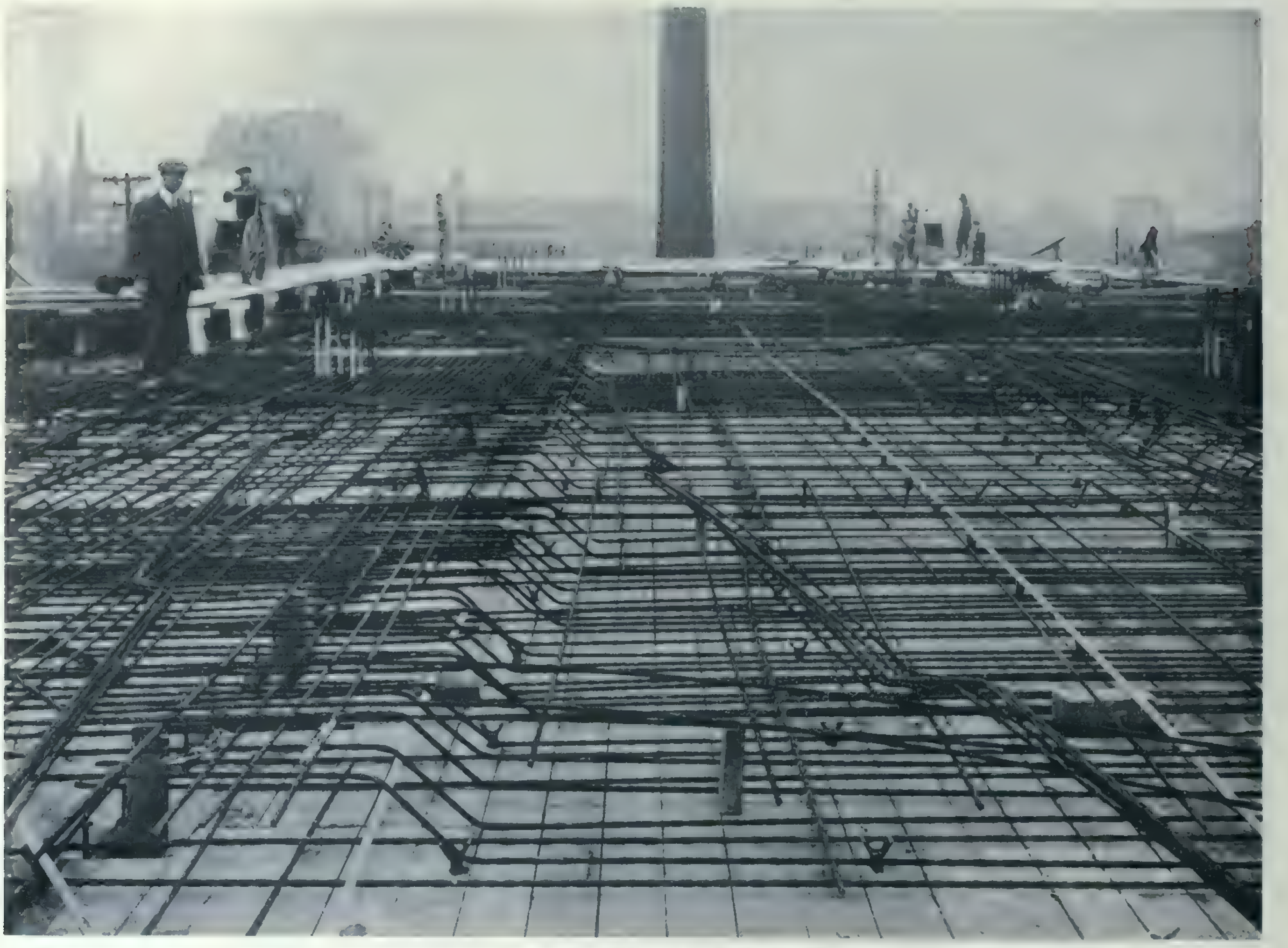
PRATT & WHITNEY COMPANY'S PLANT, DUNDAS, ONT.

waiter, 3 x 4 ft., for delivering finished parts to the main store and shipping room. The building is enclosed with a 7 ft. steel fence and set well back from the street line, which allows for a wide driveway and plenty of yard space. The exterior walls are of brick with cut stone trimmings and counterbalanced steel sash; and other features of the equipment, such as the sprinkler system, drinking fountains, individual metal lockers, and the lavatories are all of a modern type.

Both plants have a sewerage system of their own, comprising a disposal tank and main and secondary branches. From the main plant and offices of the Bertram Company the sewerage flows by gravity, and from the Pratt & Whitney premises it is pumped to the main trunk sewer on Ogilvie Street by two sewerage dejectors of 100 gallons' capacity per minute each. Besides this, a complete system of storm sewers has been built to take



INTERIOR VIEW, PRATT & WHITNEY COMPANY'S BUILDING.



VIEW SHOWING POSITION OF STEEL REINFORCEMENT, PRATT & WHITNEY COMPANY'S BUILDING, DUNDAS, ONT.

care of rain water from the main buildings, which is delivered to the creek at the Ogilvie Street bridge.

The creek itself passes the south end of the Bertram property where concrete revetments have been built along both banks, the water taking its course over a 14-inch bed between the walls. This improvement alone cost $45,000, and involved the diversion of the stream from its original position, and has made possible the enlargement of the plant in this direction. It also serves to prevent damage from floods, which are very heavy through this valley during the spring and wet seasons, when the rate of speed at which the stream travels at this point has been as high as fifteen feet per second.

Ancient Built Walls

The statement is frequently made, comments *Buildings and Building Management*, that the

FORM WORK, PRATT & WHITNEY COMPANY'S BUILDING, DURING PROCESS OF CONSTRUCTION.

VIEW SHOWING FORM WORK OF BASEMENT, PRATT & WHITNEY BUILDING, DUNDAS, ONT.

ancient Romans used concrete freely, and that their work has lasted perfectly down to the present day. The impression that is sought to be conveyed by all such statements is that the concrete was precisely similar to that we are using now, and consequently is an argument for the durability of some of our cheap construction. Everyone who has looked into the subject with any thoroughness knows, of course, that the Romans faced their walls with stone, and merely used a core, or filling, of cement and spalls, says Stone. This is far different from our concrete poured into removable forms. C. R. Peers, chief inspector of ancient monuments and historic buildings in Great Britain, delivered an interesting address on "The Care of Ancient Monuments" recently. Among other things, Mr. Peers said:

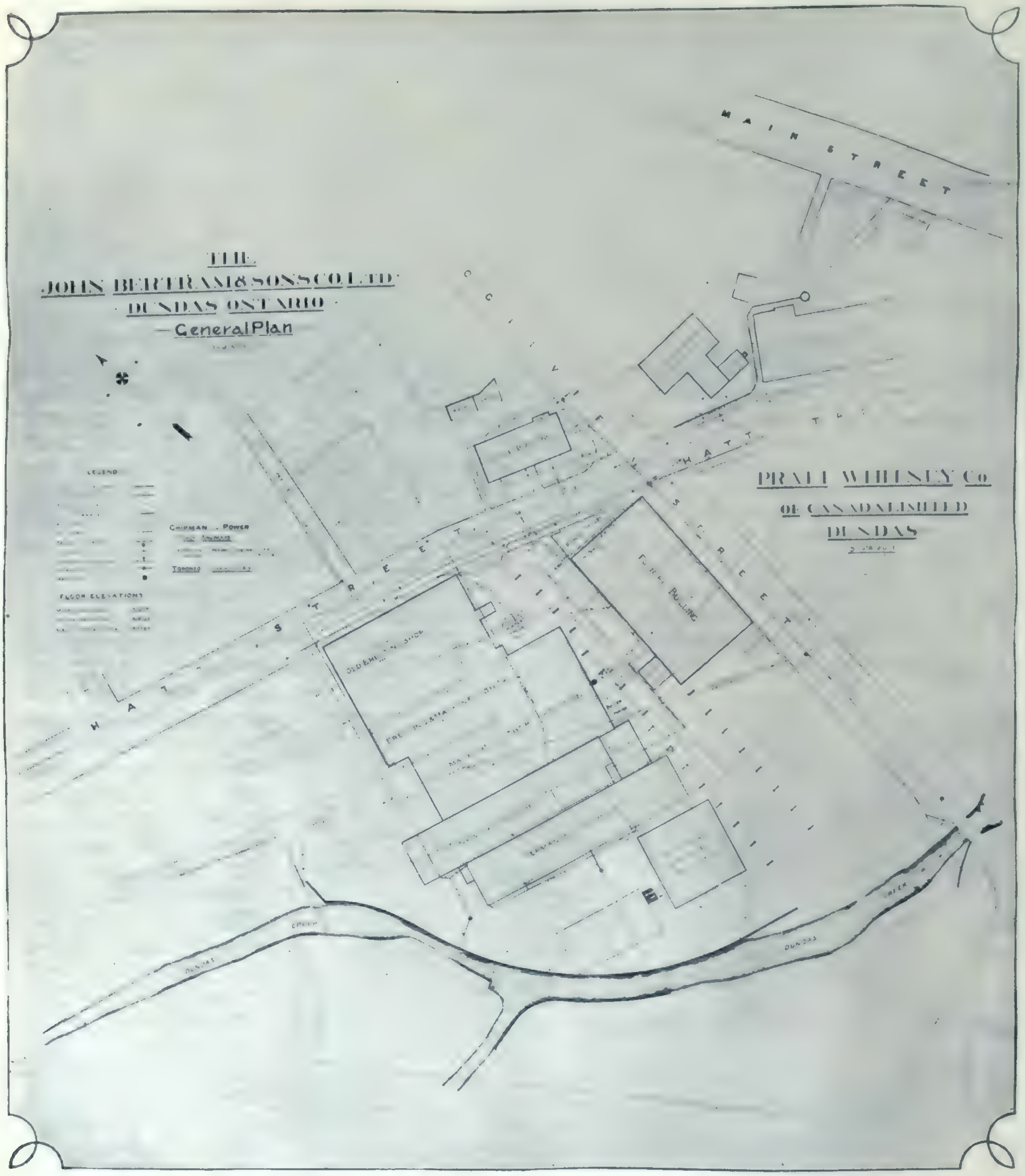
"We are accustomed to hear comparisons drawn between the work of former ages and our own, not to our own advantage. This is by no means always fair. There has been good and bad building in all ages, and in the course of nature more of the bad buildings have perished than of the good, and in consequence the achievement of the period which has left an appreciable number of works is liable to be judged on too favorable a ground. Even in such Roman buildings as are left there is no uniform standard of merit.

"The Roman tradition of building with two faces and a core was continued in the Middle Ages, but often with none of the care and thoroughness which was necessary for its success. In the eleventh century, at any rate, the core in many instances was little more than earth and building rubbish packed in between wrought stone faces, these latter in small stones with shallow beds. Such walls would stand no great weight and were also particularly sensitive to any foundation movement or lateral stress, having no natural strength.

"In a small building, where stresses are neither great nor complex, a weatherproof wall face protecting a weak core will often

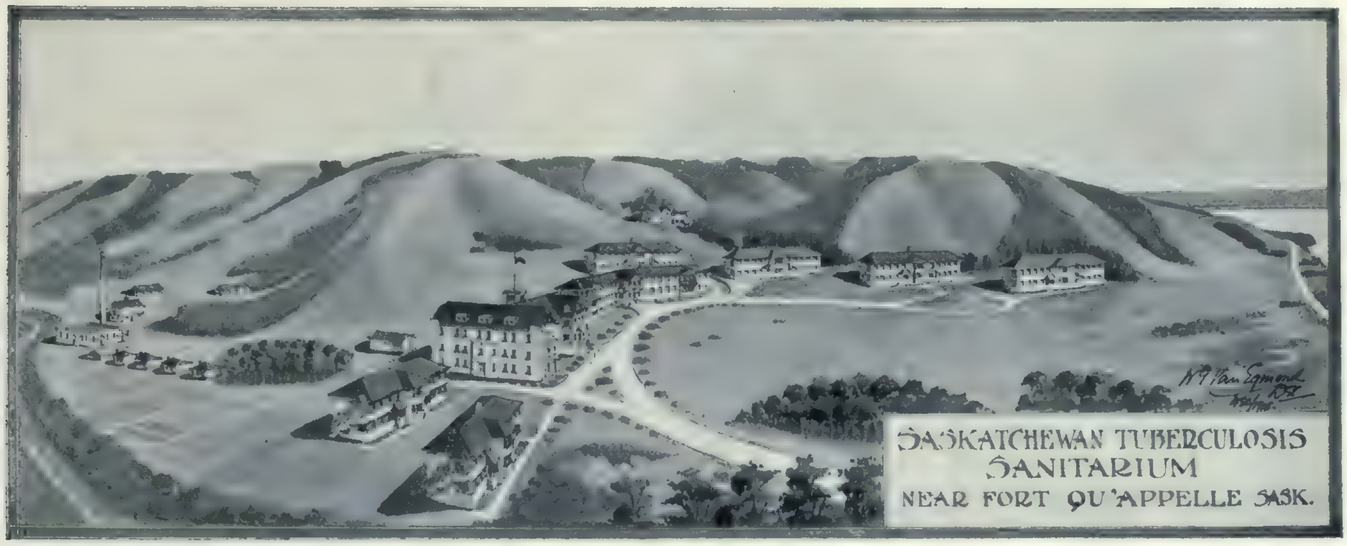
LOWER FLOOR COLUMNS, PRATT & WHITNEY COMPANY'S BUILDING, SHOWING FORMS FOR CAPS.

serve well enough for the time, but the ruin or reconstruction of many of our mediaeval buildings has followed the adoption of such a principle. Walls were pointed in tolerable lime mortar, but built in nothing but clay, and as long as the pointing was able to keep the weather out they were able to do the work for which they had been designed. But if, through any settlement or stress, a fracture developed, the masonry had no power of resistance, but fell away and became fit for nothing but pulling down, for lack of sound walling to which to bond a repair. It will easily be seen that it is almost impossible to strengthen such a wall so as to prolong its existence appreciably without destroying its character, considering that its character is the very source of its weakness."



GENERAL PLAN

Bertram and Pratt & Whitney Plants, Dundas, Ont.



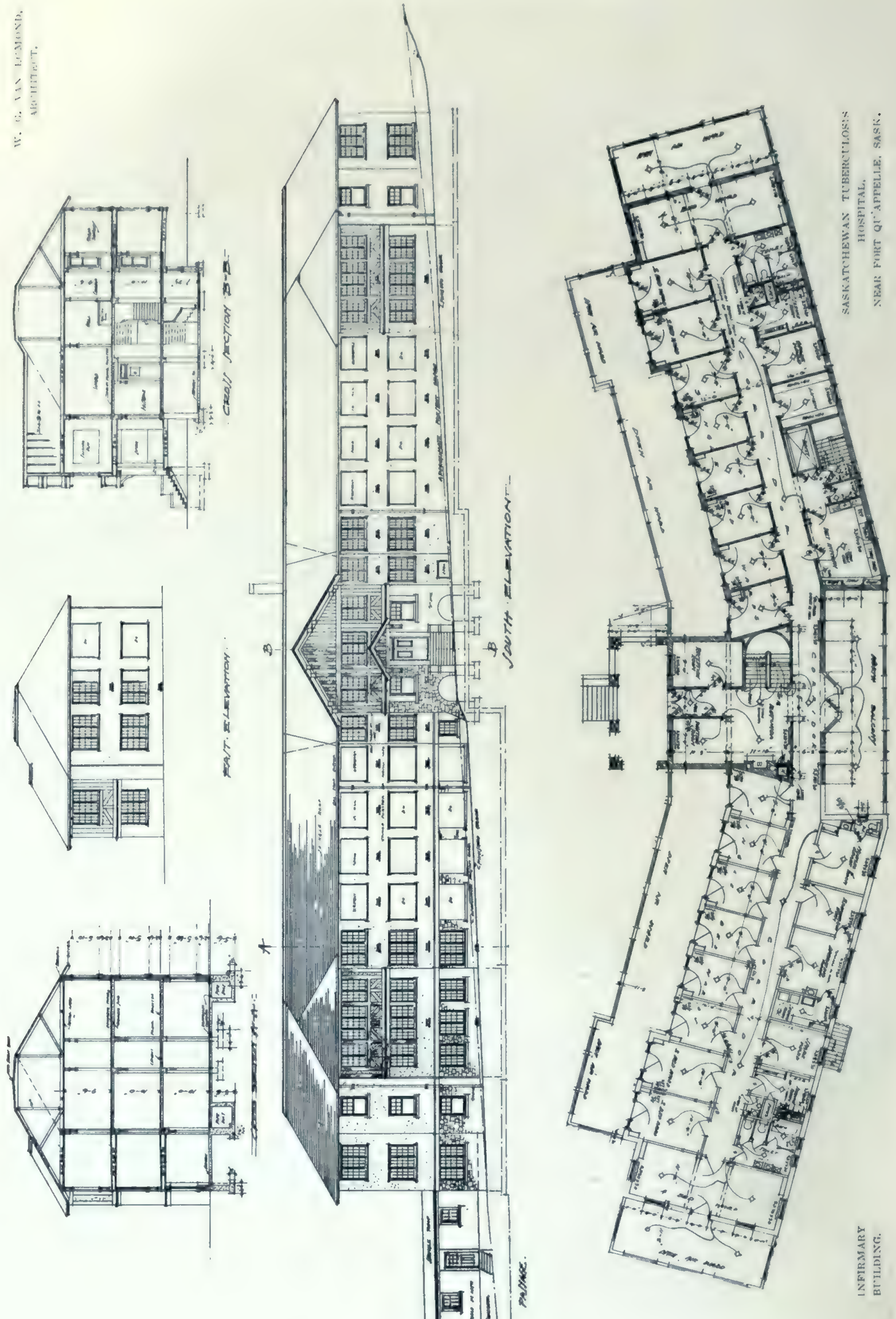
PERSPECTIVE VIEW SHOWING GENERAL SCHEME OF BUILDINGS.

Saskatchewan Tuberculosis Sanitarium

NESTLING cosily in the shelter of a cup of hills on the northern shore of Lake Qu'Appelle, two and a half miles west of the old historic Hudson's Bay Company post of Fort Qu'Appelle, the Saskatchewan Sanitarium occupies a location which is ideal for the treatment of tuberculosis. Conforming to the sweep of the hills, the buildings form a crescent which faces the lake in a southerly direction, giving the patients the benefit of the sun's rays, and the hills, rising to a height of 200 feet, provide protection from all winds except the warm winds from the south.

The descriptive appellation, "Sunny Saskatchewan," is more than a poetic alliteration, for it is a well-known fact that Saskatchewan enjoys comparatively the greatest amount of sunlight in Canada. This advantage, added to the altitude of approximately 1,900 feet above sea level, the dryness of the climate and the shelter of the encircling hills, makes the location an ideal one.

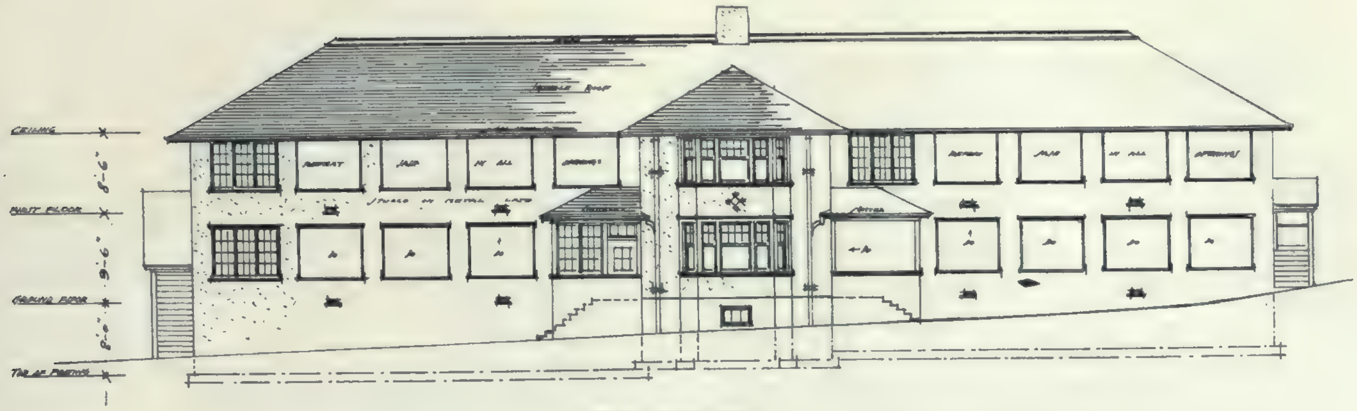
The initial buildings, comprising part of the administration building, two pavilions and power-house, were commenced in 1914, but owing to the outbreak of war, completion was delayed until 1917. These buildings provided accommodation for seventy patients, forty-eight ambulant patients in the two pavilions, and



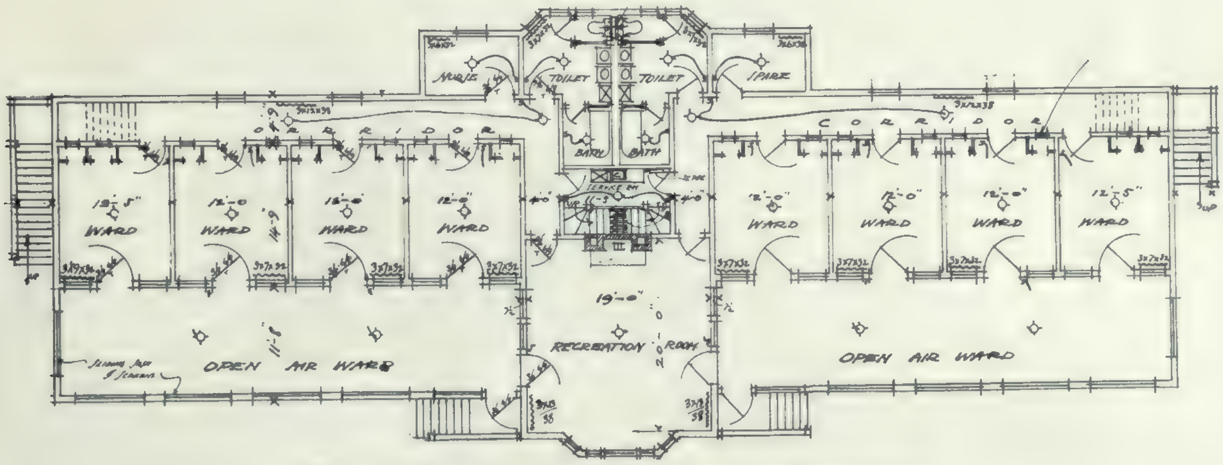
W. G. VAN EGMOND,
ARCHITECT.

SASKATCHEWAN TUBERCULOSIS
HOSPITAL,
NEAR FORT QU'APPELLE, SASK.

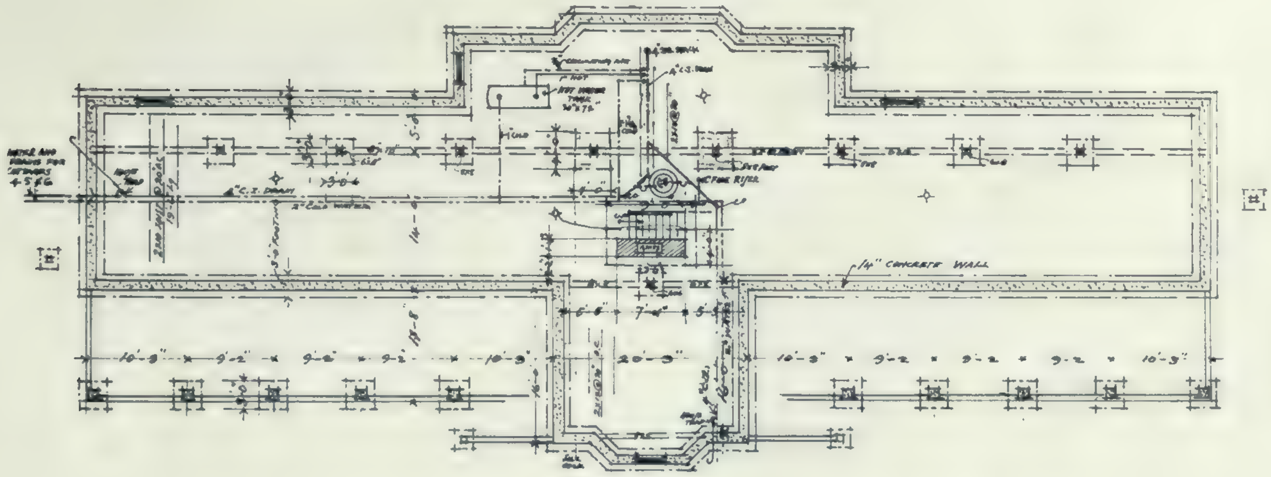
INFIRMARY
BUILDING.



FRONT ELEVATION.



TYPICAL PLAN SHOWING ARRANGEMENT OF MAIN AND UPPER FLOORS



BASEMENT.

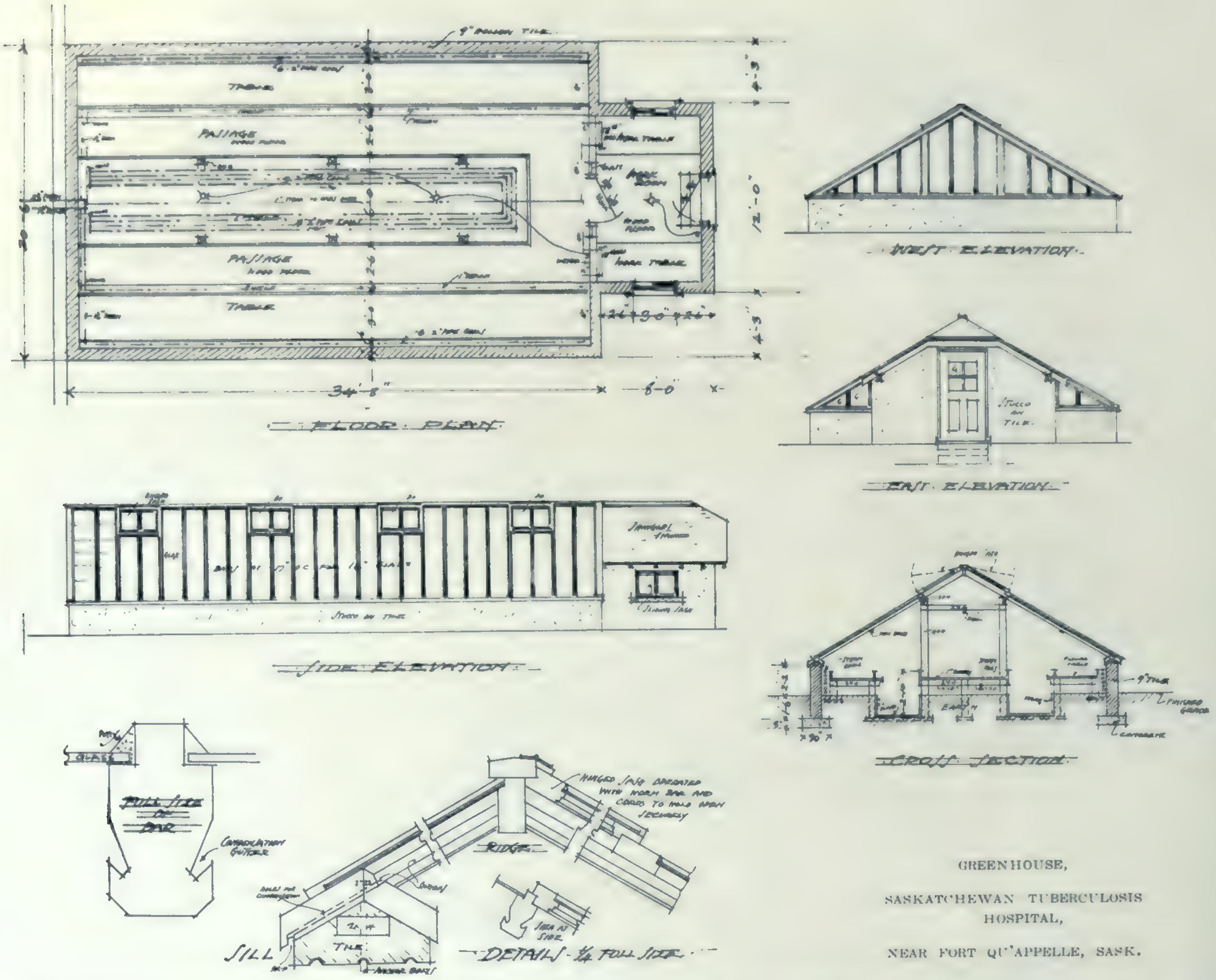
COTTAGE PAVILLION, SASKATCHEWAN TUBERCULOSIS HOSPITAL, NEAR FORT QU'APPELLE, SASK.

twenty-two infirmary patients being housed temporarily in the administration building.

Owing to extra accommodation being required for returned soldiers, the institution was extended in 1918 to provide for two hundred and sixty patients by the erection of an eighty bed infirmary, four thirty-two bed pavilions, extension to administration building, help cottages and farm buildings. It is now proposed to provide an addition to the infirmary, which will bring the total accommodation to 300. This necessitates quarters for a staff of one hundred, which has already been provided for. A recreation building, Red Cross visitors' lodge, and children's pavilion will also be erected.

Patients are first admitted to the infirmary, which is equipped throughout for carrying out infectious technique, so that each patient may be treated separately, thus protecting those under treatment from epidemics such as influenza or common colds, which are the usual causes of setbacks to tubercular patients.

The infirmary is a concrete and tile building, 32 ft. x 216 ft., with sleeping balconies along the south front. Owing to the grade of the site, half of the building is three storeys in height



GREENHOUSE,
SASKATCHEWAN TUBERCULOSIS HOSPITAL,
NEAR FORT QU'APPELLE, SASK.

and the other half two storeys. There is accommodation for eighty patients, thirty-six single bed wards, fourteen double bed wards, and four four-bed wards. In all cases, open air sleeping balconies are provided in conjunction with the inside wards, and on the north side there are summer porches, to which patients who feel inconvenienced by the heat may retire. There are also porches on the south side designed especially for sun treatment. This building is connected to the main kitchen in the administration building by a heated passageway, through which food is conveyed by means of a steam-heated dinner wagon to the diet kitchens on each floor, a hoist being provided for this purpose. Each diet kitchen is fitted with steam table, tray racks, sink, electric hot plates, refrigerator, cupboards, and on each floor there is a chart room, where a daily record of all patients is kept on file. A service room is provided on each floor, fitted with clinic slop sink, bed pan sterilizer, and racks, etc. Sanitary equipment is concentrated in a central location in each wing, five general toilets being provided, each having a bath, two closets, three lavatories and a dental basin. Centrally located in each wing there is a small wash-up room, with knee-action water supply and knee-action soap container for the use of doctors and nurses between visits to patients, thus eliminating all danger of infection. All plumbing is grouped to reduce the number of stacks to the minimum, and accessible pipe ducts are provided for all pipes.

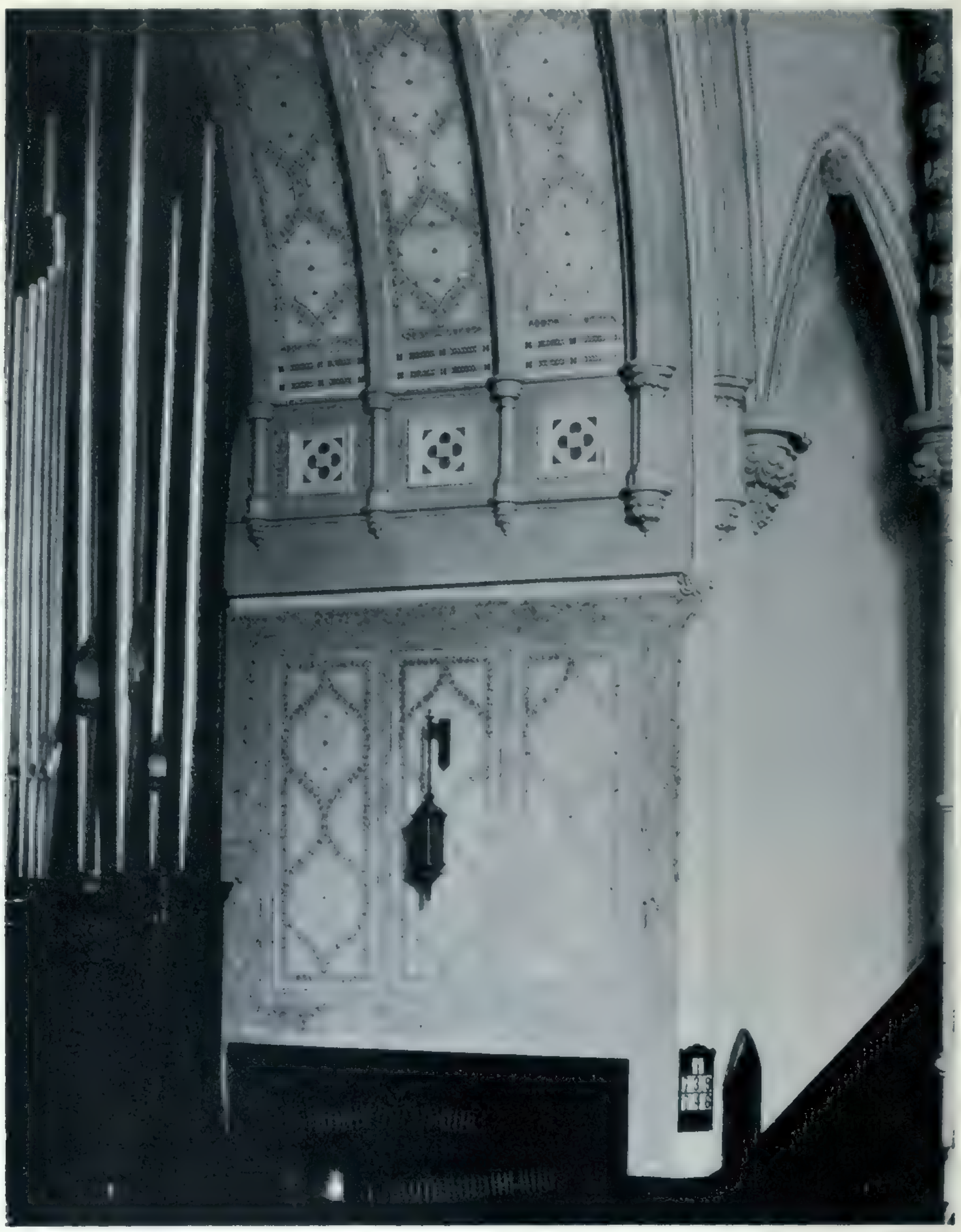
On the ground floor there is an admitting room and operating department. On the first floor, with outside separate entrance, is an isolation department, containing two wards and service room. This building is constructed of reinforced concrete construction, the walls and partitions being of hollow tile. The ground floor walls are of local rubble stone and the superstructure walls are stucco plastered, the stairs and floors being of concrete throughout, finished with a concrete paint. All finish is white enamelled and the doors are of slab pattern, those between the inside and open air wards being Dutch pattern doors and wide enough to allow beds to be rolled in and out. The walls of the open air wards are plastered, and the openings are fitted with sliding sash and screens. All wards and sleeping balconies are connected with the chart room and diet kitchens by an electric light signal system, which, while eliminating the nerve-racking jangle of bells, insures instant attention. The cost of the infirmary was $80,000.

Patients who have progressed sufficiently to be allowed exercise are promoted to the pavilions. Each pavilion has accommodation for thirty-two patients, inside wards being provided to accommodate two beds each. In the centre of each floor there is a recreation room dividing the patients in the sleeping balconies into four communities of eight each, thus giving a combination of cure and companionship that yields good results. A separate stairway is provided to each section, and each section has toilet accommodation consisting of bath room, closet, two lavatories and dental basin. Rooms are provided for supervising nurse, instructors, supplies, etc., and on each floor there is a service room, fitted with slop sink and linen chute, and a service stairs. The construction of the pavilions is of frame, finished on the outside with stucco plaster, metal lath being used throughout. Each pavilion is 32 ft. x 116 ft. and cost $27,000.

CENTRAL ELECTRIC LIGHT FIXTURE, (REDECORATED INTERIOR), ST. JAMES METHODIST CHURCH, MONTREAL. SEPTIMUS WARWICK, F.R.I.B.A., ARCHITECT.

The administration building is of reinforced concrete construction, with brick walls. In this building are located the administration offices, nurses' and help quarters, examination rooms, kitchen and main dining room for ambulant patients, accommodating 200. A well-equipped laboratory and a modern X-ray department is provided.

Heating, electric lighting and water are supplied from a central power house, equipped with a high-pressure steam system of three boilers and two steam generators. Electric light is provided to all buildings through a storage battery. Heating is provided by exhaust steam and a vacuum system of distribution, the pipes being carried between buildings through tunnels, and to the more outlying buildings through split tile. Water is supplied from two wells, from which water is pumped to a reservoir on the top of the hills, giving a gravity supply, with constant high pressure. Separate from the domestic system there is a 6 in. fire service line to hydrants between all of the buildings.



CHANCEL ARCH (REDECORATED INTERIOR), ST. JAMES METHODIST CHURCH, MONTREAL.
SEPTIMUS WARWICK, F.R.I.B.A., ARCHITECT.

In connection with the power house there is a well-appointed steam laundry. A sewage disposal plant is provided, handling all sewage from the institution.

In addition to the above buildings, there are help cottages, stables, ice house, greenhouse, poultry house and piggery, all designed along the most approved lines for convenience and sanitation.

Decorative Scheme of St. James Methodist Church, Montreal

The interior of St. James Methodist Church, Montreal, has recently been redecorated and now presents a much improved appearance. The walls have been treated in a warm buff color, and the ceiling ribs continued in the same color, but two or three shades lighter, the ceiling panels having a background of old ivory with a small chevron stencil following the lines of the vaulting.

The pews and wordwork generally have been kept in their original coloring, but the woodwork to the pulpit and the choir has been treated in a rich brown color. The ground floor of the church is covered with a dark green cork carpet, and it is proposed at a later date to lay strips of gray carpet in the aisles and gangways, with a border designed to match the small stencil pattern round the dado of the church.

The principal new feature of the interior is the lighting system, which has nitrogen lamps placed in bronze lanterns around the sides of the church and under the galleries, with a large octagonal lantern in the central crossing of the roof, surmounted by two circular rings of lights, the largest of which being 8 ft. 6 in. in diameter. The total height of this central fitting is 20 ft.

A new silk curtain is placed at the back of the organ divided into panels with a gold galloon, the sides of the organ arch and the ceiling are treated in a flowing stencil decoration in small patterns of purple and green.

The whole effect has been to brighten the interior, and to add to the devotional character of the church, without any lavish display of color or any undue expenditure of money. The decorative scheme has been designed and carried out under the superintendence of Mr. Septimus Warwick, F.R.I.B.A., who was also the architect for the Soldiers' Club in the basement of the church, recently opened by the Governor-General.

◆

Larger Loans for Better Houses

One result of the co-operation of the Commission of Conservation with the Housing Committee is that there has been introduced into the recommendations to be made by the Federal Government something that will help to avert a certain amount of fire waste which goes on in connection with houses. The Government of Ontario limits the amount which may be spent on a house to $3,000. The result will inevitably be that cheaper material will be used, and in the Commission's recommendation to the Dominion Government it was suggested that, for a frame house with brick veneer or frame house with stucco and shingle roof, the loan be for $3,000 if the house contains four or five rooms, and for $3,500 if there be six or seven rooms; and that if the house be built of brick, stone or concrete, with fireproof roofing material, the loan be $4,000 for three or four rooms, and $4,500 for six or seven rooms, the period of repayment being thirty years instead of twenty, at five per cent. The result will be that every man who wants to build a properly-constructed house not only can get a larger sum, but can get it on the same monthly repayment plan as that of which the man who builds the cheaper house has the benefit. In other words, a man can get $4,000 for thirty years on the same monthly repayment plan as the man who builds the cheaper house can get $3,000 for twenty years. Of course, the payments in the case of the larger loan extend over a longer period, but the owner has a house of more durable construction. That principle has now been adopted, and will be a direct recommendation by the Dominion Government. In adopting these recommendations the Government is taking a forward step in recommending the adoption of town planning principles in connection with housing schemes and in furthering these measures to secure the best methods of construction.—"T. A.," in "Conservation."

◆

On Trip to Far East

F. R. Still, Vice-President and Secretary of the Canadian Sirocco Company, has left on an extended trip to the Far East, where he will investigate trade conditions in connection with export work. Mr. Still's itinerary includes Japan, China, Australia and most of the European countries, and he expects to cover approximately 36,000 miles before returning home about November 1st.

◆

The Building Ordinance of St. Louis, Mo., divides the city into zones controlling the height, area and use of buildings. There are five "height districts," varying 45 to 150 feet, and also five "use districts," namely, first residence district, second residence district, commercial district, industrial district, and unrestricted district. In this manner the authorities are able to regulate and govern all development, with the result that many objectionable features hesetofore existing are gradually being overcome.

New York City had recently opened both the largest and second largest hotels in the world. These are the New Pennsylvania and Commodore Hotel; the first-named containing 2,200 rooms with baths, and the latter 2,000 rooms with baths.

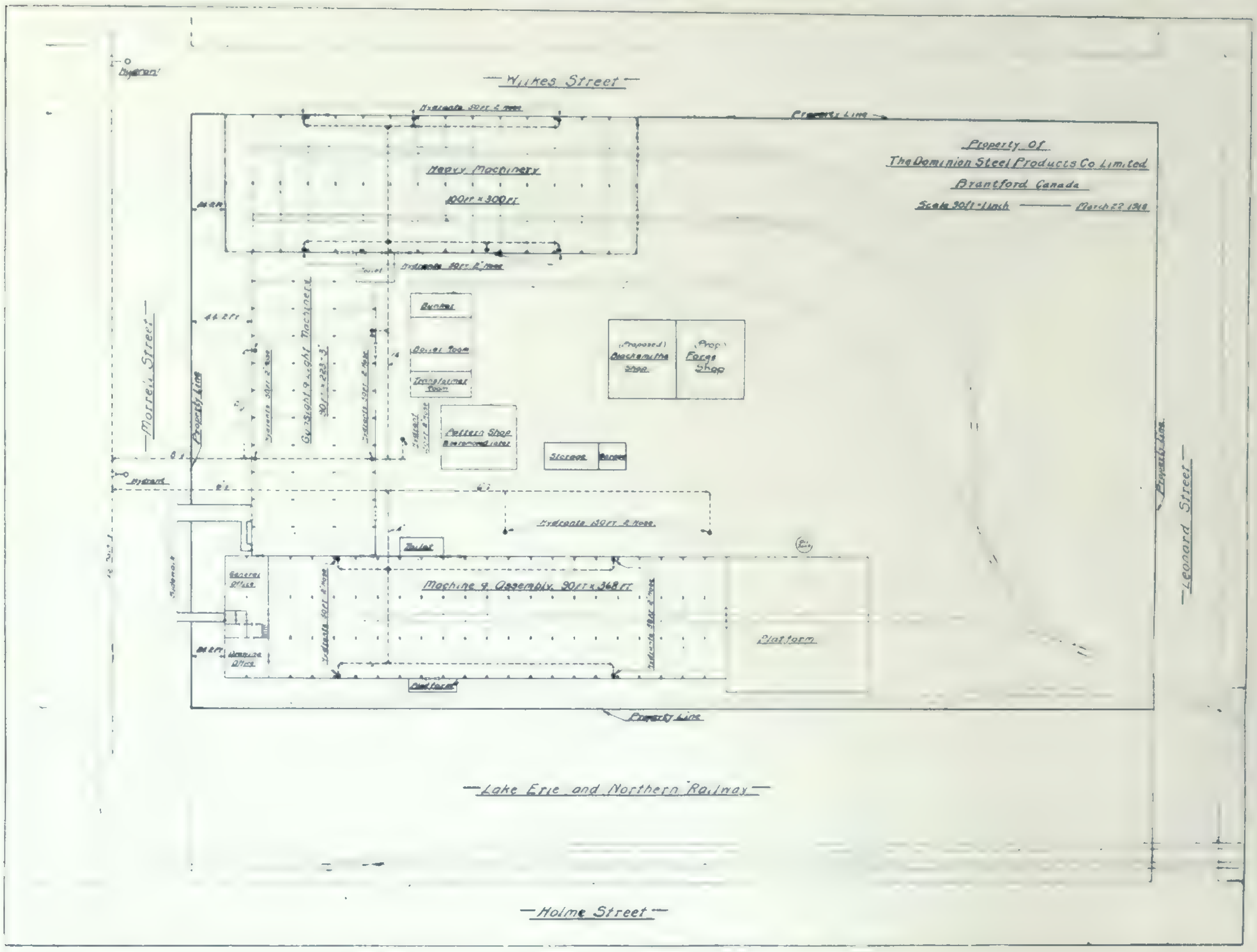
◆

At a recent meeting of the Toronto Board of Education a motion was introduced embodying five points regarding schools additions. The points were: That no addition be made to a school where the class-rooms at present are more than 23 in number. That no addition exceed two stories in height. That a competent architect be secured to draw plans and specifications. That these be open to inspection by architects. That the work on such additions be proceeded with as expeditiously as possible, and that the Property Committee report progress at every meeting of the board.

This motion was referred to the Property Committee.

A letter was read from the Board of Trade suggesting that in future the boards of assessors on plans for new schools should be composed of two trustees, one architect and one outside person who was not an architect.

GENERAL EXTERIOR VIEW.



VIEW SHOWING "DAYLIGHT" CONSTRUCTION OF SIDE WALLS.

PLANT OF THE DOMINION STEEL PRODUCTS COMPANY'S, BRANTFORD, ONT.

OFFICE ENTRANCE INTO MAIN BUILDING.

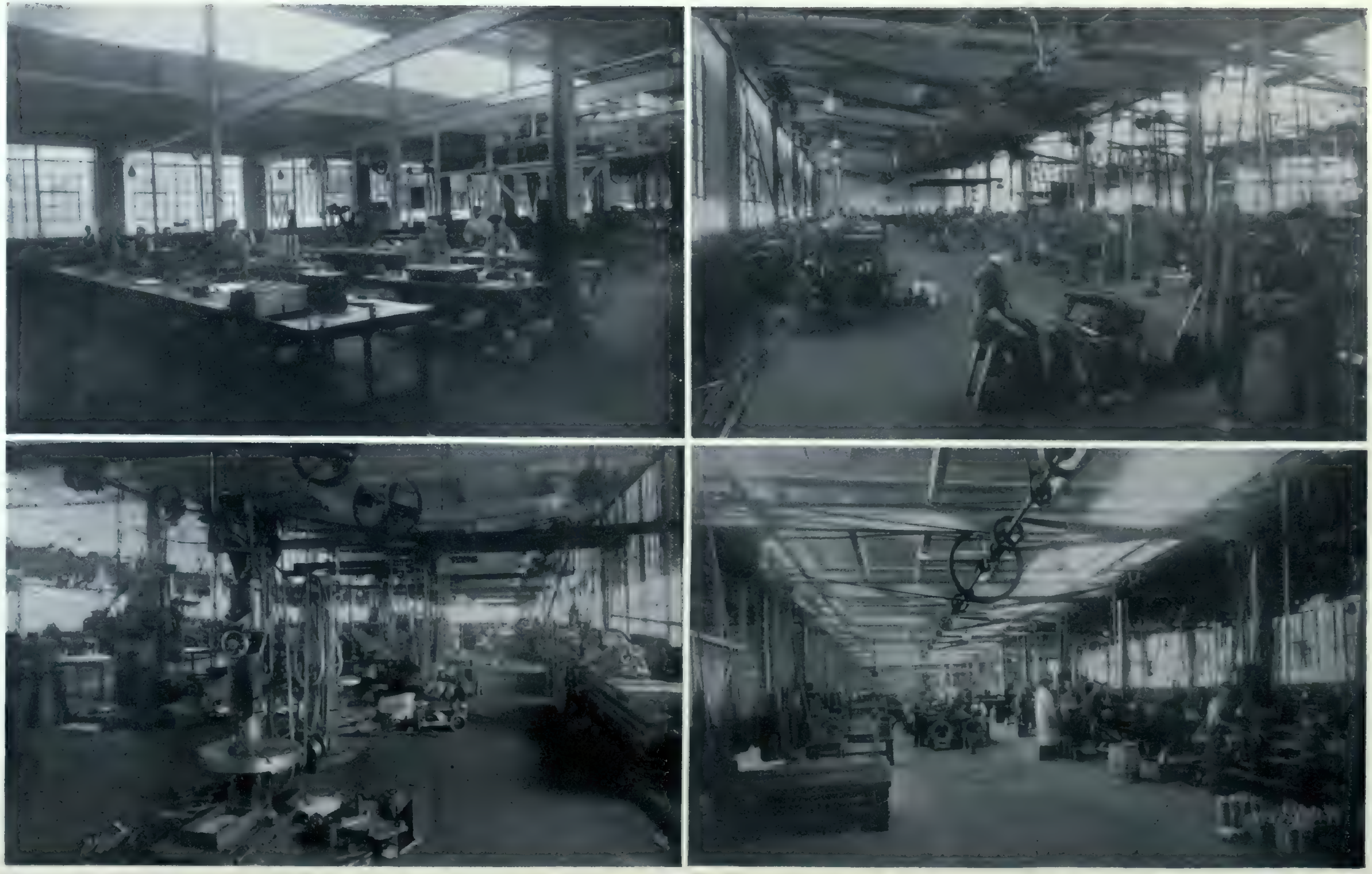
Dominion Steel Products Co.'s Plant

IT is doubtful if one can find in all Canada an individual record of the rapid growth to permanency and prosperity more striking than is furnished in the case of the Dominion Steel Products, Limited, of Brantford, Ontario. Barely three years ago the forerunner of this business was apparently a mushroom growth thrown up by the stimulus of war, a "war baby," as it were, destined by all signs to a brief span of commercial life and then a quick and sudden cessation of all activities. At that time the plant consisted of a wooden building, hastily erected, to turn out the only business on their books, which was the machining of 25,000 shells for the Imperial Munitions Board. However, the filling of this initial order was purely a business expediency adapting executive and engineering ability to an exigency of the times, and was incidental to, rather than the direct object of what the management had in mind, namely, the establishment of a permanent industrial plant. This is evident in the size and durable character of the buildings which have been erected, as well as in the modern housing scheme which the company is carrying out for the benefit of its employees.

In other words, the idea of the directors from the first was to organize an industry which would be capable of taking care after the war of normal trade requirements for manufactured steel products in the Canadian field. In consequence of this, a modern plant has been established and equipment of a standard type installed throughout. Under the impetus of increasing business, it has grown in a remarkably short time to its present dimensions, comprising a number of "daylight" units which cover in all six acres of ground and contain 85,000 square feet of floor area. The first building of the group was erected in 1916 and completed in 59 days' time. Two more units were started in the middle of January, 1918, and were ready for occupancy three months later. Besides the operating departments, there is a blacksmith and forge shop, boiler-house and transformer-room, pattern shop and storage located in separate buildings at the rear.

BOILER HOUSE, TRANSFORMER ROOM AND STORAGE.

The construction throughout is of steel frame work, with brick enclosing walls and concrete floors and foundations. Side tracks from the main line of a railroad which passes alongside the rear of the property extend through the full length of both end buildings, thus affording excellent facilities for loading and shipping purposes. These end structures are



UPPER VIEWS: ASSEMBLY AND TOOL DEPARTMENTS

LOWER VIEWS: SECTIONS OF NO. 1 AND NO. 2 SHOPS.

DOMINION STEEL COMPANY'S PLANT, BRANTFORD, ONT.

100 x 300 feet and 90 x 368 feet in size, and flank another department 90 x 223 feet at the front of the property. The several factory rooms are quite lofty in height, with very little overhead obstruction. Myriads of small windows set in the steel sash forming the side wall areas bathe the place in daylight. The machines, which range from the ordinary engine lathe to a fifteen-ton boring mill and a forty-ton planer, are all operated by electricity. While this machinery has been utilized in turning out war work, the policy of the company has been not to take on work which would involve the tying up of capital in special machines. Hence the equipment with one exception is of standard type, thus enabling the management to readily adapt its facilities to any of the various lines of steel products which they choose to manufacture.

Besides providing a working environment which gives the men well-lighted and well-ventilated departments in which to do their jobs, the company has undertaken as part of its development a housing scheme which is particularly noteworthy, especially in view of the housing problem at the present time being such an important and vital question. For this purpose the company has acquired a forty-acre site within convenient distance of the plant. That is to say, from four to six minutes' walk is all that will be required for the occupants to reach their place of work. Notwithstanding this proximity, the plant is sufficiently remote so as not to intrude itself upon the domestic aspect of the scheme.

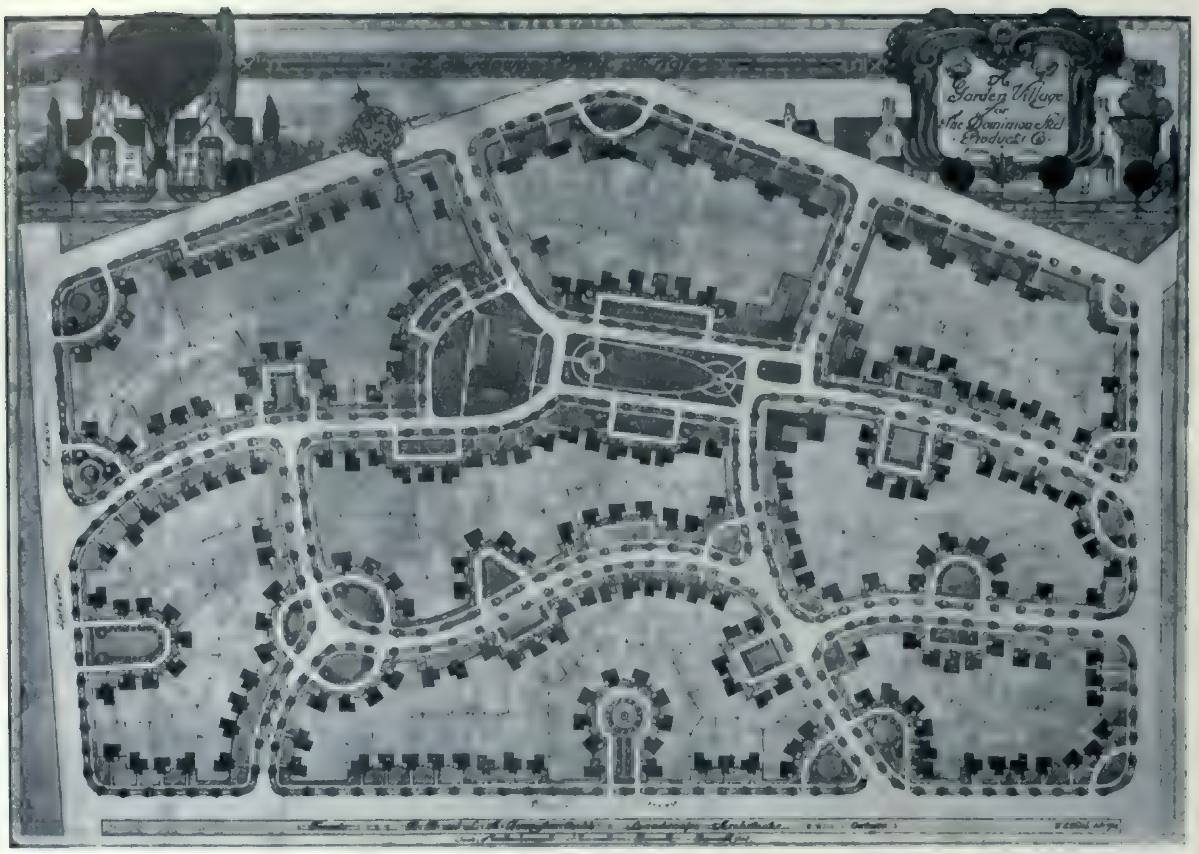
The creation of this residential area is in the hands of Messrs. Scott & Wardell, a firm of Hamilton architects, who are responsible for the designing of the various houses, while the ground features are being carried out by H. Dunington Grubb, Toronto, the well-known landscape architect. Lansdowne Park Estate, as the place will be known, will have winding avenues and no straight streets. Trees and shrubs will be planted to give the various homes an attractive setting, and the appearance of the place when completed will be that of an English residential area. Further reference to this development, which is one of the first undertakings of its kind in Canada, is made in the following article, which takes up "Industrial Housing" in a more general way and forms in this connection an interesting and related subject. Already about fifty of these homes have been built, but are not yet all ready for occupancy. The company's investment in this development will be about $4,500,000 for the first hundred houses. Rental charges to employees will be based on the carrying charge of the property. The houses are well designed, built of first-class materials, contain electric light, bath rooms, polished floors, electric kitchen stoves, and are complete and up-to-date in every way.

Industrial Housing

By H. B. Dunington Grubb.

THE intelligent study of industrial housing, like almost every other social and economic problem, must begin with an examination of the effects of war. In 1914 a British statesman remarked that the outbreak of a European war would set back the march of social progress fifty years. The reverse seems to have actually occurred. In England the war has made possible a multitude of experiments in social reconstruction and co-operation which, in times of peace, could scarcely have been accomplished by a generation of agitation. Both employer and employed have found their most sacred principles not only challenged, but arbitrarily swept away. The fixing of prices, the rationing of necessities, the replacement of men by women, the limitation of profits, are all experiments which have passed through the test. The man in the street has taken thought. He is in the mood not only to retain many of the emergency war measures, but to experiment still further. As war measures he has witnessed economies effected by co-operation which would, if carried further, result in inestimable stimulation of industry, and general prosperity. Within the next year we may expect to see a British Unionist Government pass such legislation as would have been described as the wildest folly by radicals before the war. Many of the injustices of our social system are about to be brought before the court of public opinion. One of the first to be remedied will be the matter of housing.

The relationship between a high standard of living conditions and production is just beginning to be realized. In all large cities we see a tendency for industry to move further and further away from congested centres of population. In some cases the movement is from the centre to several miles outside beyond the suburbs; in others the factory is moving from the large city to the small town, while the most recent movement of all is from the city to bare agricultural land, far removed from urban



GROUND SCHEME, LANSDOWNE PARK ESTATE DEVELOPMENT, BRANTFORD, ONT. H. B. DUNINGTON GRUBB, LANDSCAPE ARCHITECT.

conditions. Recent statistics in the United States show a much larger proportional percentage of industrial failures in congested areas than in thinly populated districts.

One of the principal underlying causes for this movement is the recognition by capital of the value of a high standard of living conditions for the worker. While the union is shouting conscription of wealth, whatever that may mean, higher wages and shorter hours, the operative is really more interested in improved living conditions for himself and his family than he is in a higher scale of wages, with which he imagines that he can equip himself with the amenities of life.

The United States Steel Corporation has placed so much emphasis upon the necessity for control of the housing and surroundings of its workers that instead of locating its new plants in any existing town it has created new townsites for its workers, as at Gary, Ind., and Ojibway, Ont. This policy involved the purchase of vast tracts of land in each case, the expenditure of huge sums in the erection of dwellings, the provision of public services, such as pavements, sidewalks, sewers, gas, water and electricity. The experience at Gary proved so successful that the experiment is being immediately repeated at Ojibway, near Windsor.

At first sight the obvious advantages of locating in a city would seem to be so great as to make the creation of new townsites difficult to explain. Any city or town would offer almost untold inducements to a great industry in order to obtain taxing power over thousands of well-paid employees. Accommodation of a sort would exist. No great sums of capital would have to be spent on city services, house-building, etc. A fluid labor market would be provided ready to hand. A brief examination of the possibilities of the townsite method, however, not only seems to explain the action of such great industries as the United States Steel Corporation, but also to forecast the time when smaller manufacturers will combine in order to obtain similar benefits, and finally the day when the state will step in and undertake the work which private industry is already finding so necessary that it must attempt it on its own behalf.

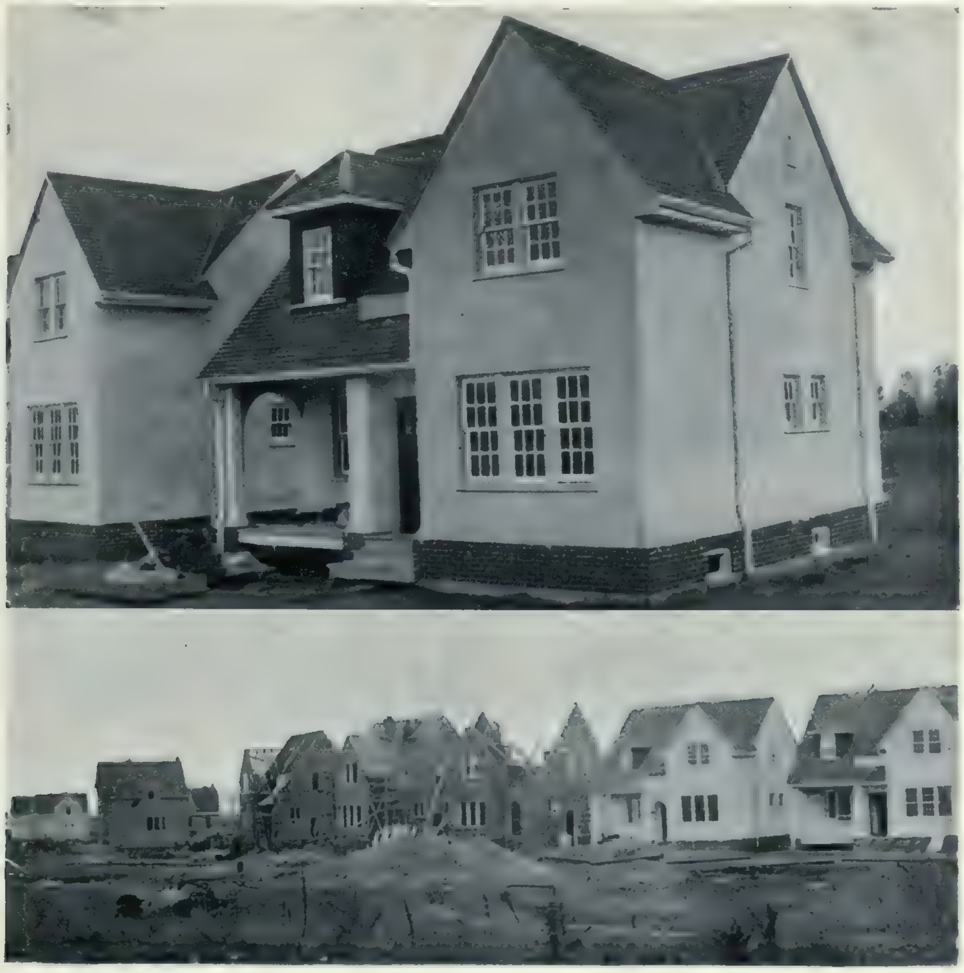
1. By the purchase of agricultural land on a large scale the corporation will be able to control land values, and so secure for their employee abundance of light, air and space at a much lower cost than would have to be paid for overcrowded accommodation in the city, possibly at a great distance from the works.

2. By retaining control of building operations the company will be able to protect the employee against exploitation by the speculative builder. The formation of building companies with limited dividend undertaking construction on a large scale will enable the tenant or purchaser to obtain better and cheaper accommodation than would be possible under (a) individual effort, (b) construction by the speculative builder.

3. By developing the tract as a whole and planning it out in a sensible manner:

(a) An enormous saving in the cost of public services can be effected. Seventy-five per cent. of the streets can be arranged to receive no through traffic. Pavements and sidewalks can be reduced to a minimum and be of lightest construction. Water and sewer mains can also be greatly reduced.

(b) The number of houses per acre and general density of population can be determined and arranged for maximum health of parents and children.



LANSDOWNE PARK ESTATE, BRANTFORD, ONT., SHOWING TYPE OF HOUSES BEING ERECTED FOR THE DOMINION STEEL PRODUCTS COMPANY. SCOTT & WARDELL, ARCHITECTS.

(c) Parks, open spaces, play grounds, allotment gardens, etc., can be adequately provided.

(d) Public buildings of all sorts, including shops, schools, amusement places, etc., can be placed where most needed.

4. By retaining control of all the land the increasing land values, both on the part developed and also beyond, can be made to accrue for the benefit of the community, resulting in freedom from taxation or even a bonus.

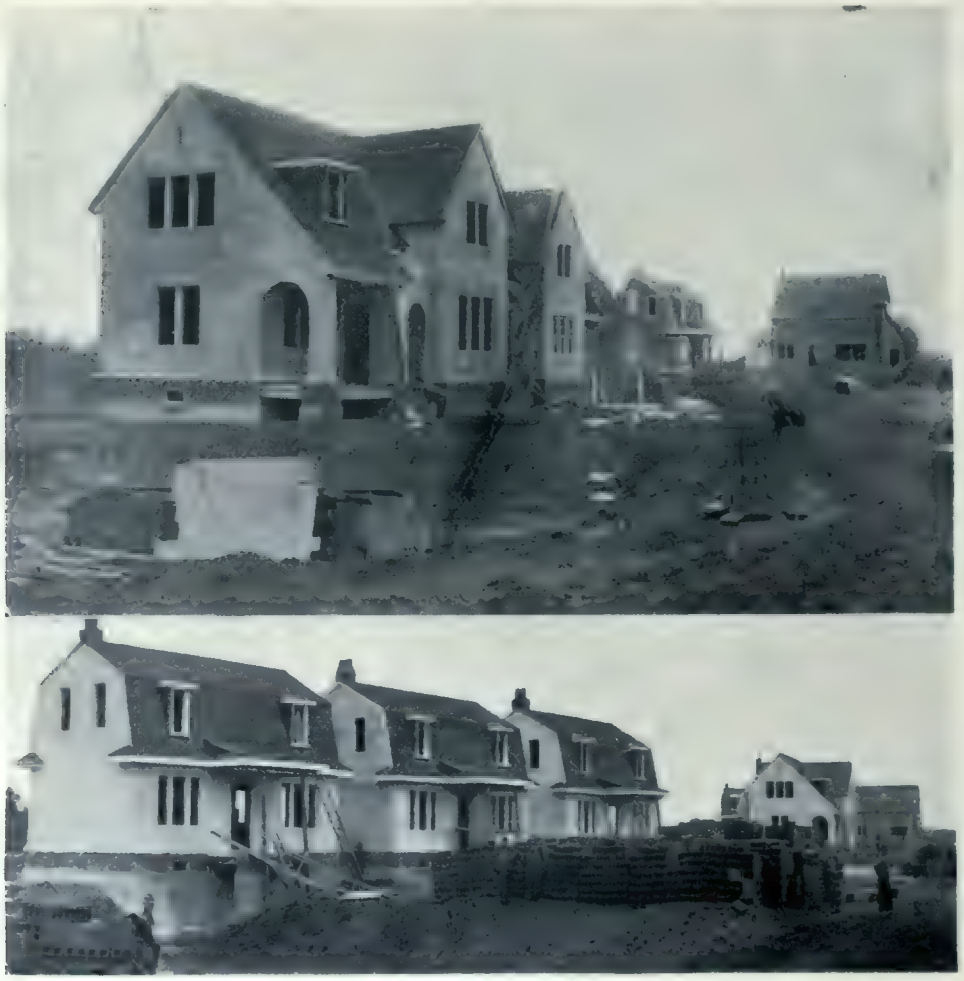
5. By supplying a high standard of living conditions for the workman and his family an increased standard of output and efficiency will be obtainable. Modern cottages, free from overcrowding, with abundance of air and space for their families, and moreover at a lower rental than that obtainable for incomparably worse accommodation in the city, will produce a community likely to remain more happy and contented than the slum-dweller. Famine, hopelessness, misery and discontent, as President Wilson has pointed out, provide the ideal propagating ground for Bolshevism and social unrest.

Industrial housing in Canada is making a rapid start. The town of Ojibway, for the Steel Corporation, perhaps the most advanced example, is now well under way. In almost all our industrial centres an acute house famine exists, owing partly to concentration from country districts for war production and partly to so high a building cost that private speculative building capital has been diverted to other channels for the last four years.

In the city of Brantford, Ont., the shortage has been so great that well-to-do citizens have been compelled to come patriotically forward and offer to share portions of their houses with the munition worker and his family.

The Dominion Steel Products Co., Ltd., of Brantford, finding the housing of large numbers of additional mechanics an impossible problem, decided upon the construction of a large number of workmen's dwellings as the only possible solution of their problem.

With their new plant located well beyond the building fringe of the city of Brantford, the acquisition of some thirty-three acres adjacent to the plant and the building fringe was easily accomplished. As the land in this case was not agricultural in price, and as the area involved was small, the enterprise must be classed as a workmen's model suburb rather than a townsite.



PROGRESS VIEWS, LANSDOWNE PARK ESTATE DEVELOPMENT, BRANTFORD, ONT. SCOTT & WARDELL, ARCHITECTS.

The design of thirty-three acres as a model workmen's garden suburb will be governed by principles varying greatly from those controlling a townsite. In the former case the property, while forming to some extent an entity in itself, will also have to be treated as a small section of a larger whole, in this case the city of Brantford. A glance at the plan will show that no through traffic has been provided, indeed, a conscious effort has been made to prevent it, as excellent facilities already exist all round the boundaries. As a result the streets will be private and quiet, but, most important of all, they can be constructed of minimum width (eighteen feet), and light construction, thus insuring the lowest possible assessment against frontage for improvements.

The central motive for the scheme is the village green, around which are grouped residences and the few public buildings, such as stores, entertainment hall, etc., which would be needed. The street plan follows closely the contours of the land.

A definite effort has been made to arrange groups of houses as units and courts for the sake of privacy, seclusion and architectural effect. It has been hoped that by this method some sense of pride, and even competition, in the appearance of each court or unit might be acquired by the tenants. In some cases, at least, special names might be given to the courts. The perspective sketch shows a suggestion for the treatment of a typical court.

As will be seen from the plan, a definite attempt has been made to close the vistas of all streets in order to provide the greatest possible number of street pictures.

The architects, Messrs. Scott & Wardell, of Hamilton, have developed some ten types of houses of varying size and design, but all possessing a quiet, harmonious English domestic character. Out of some two hundred and fifty house sites arranged for on the property, fifty houses are now in process of erection. Owing to the very high wages prevailing at the time, it was thought that tenants would prefer detached houses in spite of the additional cost.

As the scheme is still far from completion exact figures as to cost, including land, house, improvements and general services, are not yet available. As the development has gone forward during the period which will probably form the highest peak of prices, the cost will probably provide no useful example as an indication of building costs for future efforts in industrial housing.

In any case, it may be said quite conclusively that the type of houses under construction are entirely out of the reach of the average factory operative, as rents ranging from $30 to $40 per month will have to be charged in order to pay minimum interest upon the investment.

For this reason the work now being done can hardly be said to solve the real problem of industrial housing, which demands model houses at rentals of from $18 to $25 per month.

The lines along which economies will have to be effected in order to make such rents possible have already been indicated. They may be summarized as follows:

1. Cheaper land by moving the factory out, either singly or co-operatively.

2. Skilled planning which will concentrate traffic on a few wide streets and permit of lightest construction of pavements, curbs, sidewalks, sewers, etc., on the secondary streets.

3. House construction on a large scale, providing for economy in purchasing.

4. The construction of houses in connected blocks and courts, avoiding the extravagance of detached houses.

No building of small workmen's cottages has been done during the last four years. Prices still remain so high that little will be done in future by speculative builders except by overcrowding. This must at all costs be avoided. ed for on the property,

Vancouver Permits

Building operations in Vancouver, B.C., continue to show an improvement. The volume of new work for the first three months of this year amount to $269,020, as against $181,480 for the same period in 1918. The total for March was $119,013, which is a substantial gain over the corresponding period of last year. It is reported that the outlook is most favorable.

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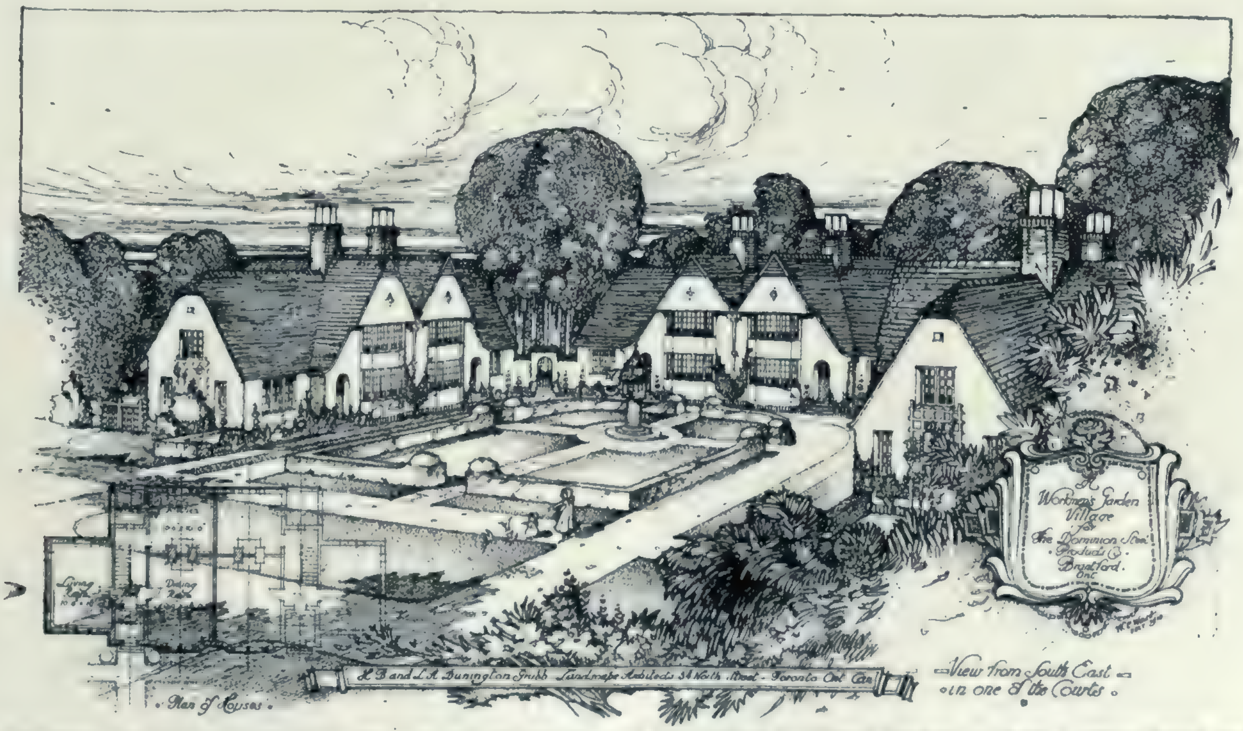
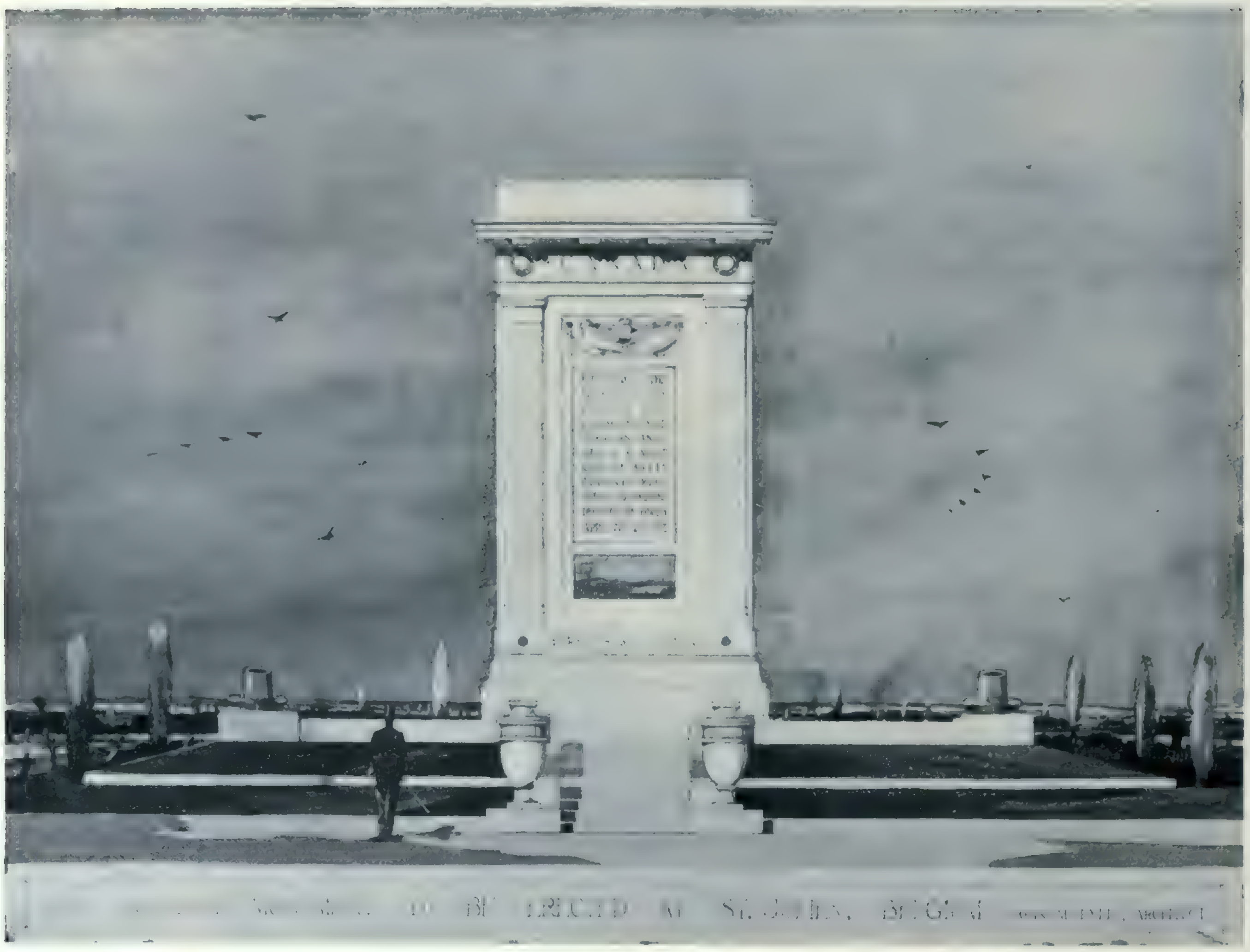
It is understood that the Province of British Columbia is planning to co-operate more closely with the lumber trade in endeavoring to obtain permits from the British Admiralty to ship lumber overseas. The demand in France and Belgium for lumber is enormous, and the only obstacle in the way of Canada securing a portion of the contracts is the difficulty encountered in transportation. It is also reported that an active effort is being made to increase the home market by going after business for British Columbia lumber in the other provinces. The scarcity of houses, together with materials required for other classes of work, it is felt, should greatly stimulate the demand.


A Workmen's Garden Village for The Dominion Steel Products Co. Brantford Ont.
Living Room
Dining Room
Plan of Houses.
H. B. and L. A. Dunington-Grubb Landscape Architects 34 North Street - Toronto Ont. Can.
View from South East in one of the Courts.

PERSPECTIVE VIEW SHOWING THE RELATION OF THE HOUSES TO THE SITE IN THE BRANTFORD SCHEME AS IT WILL APPEAR WHEN COMPLETED.


TO BE ERECTED AT ST. JULIEN, BELGIUM

DESIGN OF PROPOSED SCHEME TO COMMEMORATE THE GALLANT DEFENSE OF "C" AND "D" COMPANIES, THIRD BATTALION AT YPRES.

Memorial to be Built on Historic Site

A movement has been set on foot to erect a monument at St. Julien, Belgium, to commemorate the heroic sacrifice of C and D Companies of the Third Battalion (Toronto Regiment) at the defence of Ypres on the 22nd to the 25th of April, 1915. On that memorable occasion these two companies belonging to the First Brigade were sent to the support of the Second Brigade. Probably due to this, their existence was overlooked until it was too late for them to be withdrawn. Under most trying circumstances they succeeded in digging themselves in, making a file between St. Julien and St. Julien Wood where they remained many hours after all other Canadian and British units had retired. The forty odd that finally surrendered when their ammunition was expended and the Germans had completely surrounded them, were taken prisoners.

Colonel Kirkpatrick, then Major, and Major Streight, then Captain, were the officers in command. In short these two companies were completely wiped out, but held the position long enough for the other forces to fall back to a line further to the rear, thus typifying the bravery and tenacious fighting qualities that have won for the Canadians both lasting fame and the distinction of having saved Ypres in this historic engagement. It is in some way to permanently perpetuate the valorous deeds of their comrades that the officers of the Governor-General's Body Guards and the Tenth Grenadiers contemplate erecting this monument on the site of their gallant defence.

Fortunately the carrying out of the monument is to be entrusted to capable hands and it is sincerely to be hoped that a like course will be followed in regard to all memorials to be undertaken by Canadians either in this country or in Belgium and France, instead of the customary practice of turning over such work to ordinary mortuary architects.

Canada and the United States are already covered with cemetries which suffer a blight of monuments erected from hideous designs and executed in a slovenly manner. This is due to the fact that the prevailing idea among the lay public is that the designing of monuments is entirely outside the province of the architect,

(*Continued on page* 130.)

CONSTRUCTION

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ENGINEERING · AND · CONTRACTING
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E. R. Milling, Representative.
WINNIPEG—336 Qu'Appelle Street,
F. C. Pickwell, Representative.
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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

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Vol. XII Toronto, April, 1919 No. 4

Another Case of Outside Preference

Such slogans as "Patronize Home Industry" and "Keep the Money in the Country" represent an incalculating principle which is economically sound. But how often is this very fine preachment respected only in the breach by some of its staunchest advocates. There are still high protectionists among the manufacturers, and certain financial institutions doing business with the money of Canadian depositors, who still regard themselves as being exempt from any obligation which involves similar patronage and protection for others. A striking proof of this is the large number of buildings in Canada which have been designed and erected by American architects, and in regards to which Canadian interests and capabilities have been completely ignored. It represents a condition which extends back a number of years, which was especially noticeable during the war, and which still persists to the detriment of important professional and industrial branches of our national life. A recent instance is cited in the following letter sent to the Mayor and Council of Vancouver, the Board of Trade and Manufacturers' Association of that city, and to the Premier, Attorney-General and Speaker of the Assembly of the Province, protesting against the practice of outsiders in British Columbia. While referring specifically to the new Union Bank building to be erected on the Coast, the complaint is a general one, and shows the necessity of legislative enactment to conserve the opportunities for technical practice in Canada for those who are *bona-fide* residents. The reference which is made to restrictive legislation recently passed in Washington and Oregon which debars Canadian architects and engineers from doing work in those states is not in itself a serious grievance. It merely points to a principle which is heartily to be commended and which should speedily be adopted in this country as a sound economic measure. The subject, which has long been discussed and which is entitled to earnest consideration, is fully dealt with in the letter in question.

Gentlemen:—

The Architectural Institute of British Columbia would like to bring to your notice a matter which is of the greatest moment to the architects and other technical men of this province.

The Institute does this more especially because it is aware of the expressed views of the Board of Trade, Manufacturers Association, and other societies, that support should be given to Canadian industry and business endeavor in preference to that outside of the country.

Complaints have been continuously made by architects, engineers, contractors and manufacturers of materials in this country that an injustice is being done to them in that a very large amount of construction work in this Province has been for several years back, and still continues to be, designed and erected by American architects and engineers, and that these outside firms in many cases have not even branch or temporary offices here. In an event they are non-residents of Canada, and it is only reasonable to assume that the profits they make are entirely lost to the country.

Moreover, it is noticeable that the absence of patriotism and public spirit on the part of owners who employ outsiders to erect their buildings, is more particularly exhibited by those persons, firms and corporations who directly seek the support and make profit out of the Canadian public. While objecting to foreign competition themselves, they entirely disregard all moral and business obligations to patronize and support such as may be possible of various branches of Canadian endeavor carried on in their midst, and by sections of the public to whom they appeal for patronage and support.

The Union Bank is the latest instance where the public of British Columbia is asked to support and give profit to a company whose first move in building their new premises on Hastings Street, is to ignore the resident and engage American architects who do not permanently reside in this country, although they maintain a branch office in this city (Vancouver) during such periods as they have work here.

The architects of this province consider that in the case of the Union Bank there is no justification whatever for the selection of an outside architect ,because, in April, 1917, the Architectural Institute addressed a very lengthy communication to the General Manager at Winnipeg, setting forth in very definite form the claims of resident British architects, and to which a reply was received stating that "we will give your request the full consideration it deserves when we decide to build."

The resident architects, including some of those who have seen service at the front, consider that they have just ground for complaint in respect to this and other cases. Not merely because they have not received the consideration they might reasonably expect, from business, if not from patriotic motives, but also because the architects engaged are residents of the State of Washington, which, together with Oregon and other states, have recently passed legislation at the request of the architects there, making it an offence punishable by fine and imprisonment for Canadian or other British subjects to practice as architects in those states, the privilege of so doing being strictly limited to the citizens of those states.

Canadian architects do not object to fair competition, but they do object to being discriminated against, and consider that American architects practicing in this province should become British subjects and reside in Canada if they are to be engaged by firms and corporations seeking and asking Canadian support and preference.

It is therefore with the full conviction that this protest has your complete sympathy and approval that it has been brought to your notice with a plea for your support to remedy this condition of affairs, and a recognition of the fact that Canada has within her borders, residents fully qualified and capable of undertaking and carrying on all the various forms of professional and commercial endeavor and that these residents should be given preference.

(Signed) Hon. Secretary.

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Advisory Committee on War Memorials

War memorials at the present time form the subject of much public interest and discussion. Consequently the announcement that the Ontario Society of Artists, the Ontario Association of Architects and the Society of Graphic Arts have appointed from their membership a joint committee to be known as the Ontario Advisory Committee on War Memorials is both timely and important. There is a feeling, considering the number of proposals advanced, that a condition is liable to arise which might lead to considerable misunderstanding and unfortunate results unless such projects are brought under competent control and direction. The interest of this newly-formed board is purely an altruistic one, with the object of having all memorials erected so as to be artistically and otherwise worthy of the lofty purpose for which they will stand. The committee has issued a circular, which reads as follows:

It is intended that this Committee shall be available for consultation and advice and shall act as a Bureau of General Information on all matters pertaining to War Memorials.

The members of this Committee serve without remuneration and the services of the Committee are placed freely at the call of officials, committees and private individuals throughout the Province.

Naturally War Memorials may assume very many and very widely varying forms. Tablets, stained glass, symbolic figures and groups, gateways, arches, fountains, bridges and buildings of many kinds may be instanced as a few of the many possible forms. A recognition of the difficulties that local bodies are likely to experience in securing necessary information and advice, when the range of choice and treatment is so wide, has prompted the appointment of this Advisory Committee which may be consulted on the choice among various forms of memorials, on the methods of selecting a designer and a design, and on the ways and means generally of initiating the work, carrying it forward and bringing it to a satisfactory conclusion.

It should be clearly recognized that in all such memorials whether large and costly, or small, simple and inexpensive it is the art impress they bear that alone can give them a permanent value as fitting memorials of the dead and an inspiration to the living. It is hoped that the Advisory Committee may be of valuable service in assisting local committees toward making their memorials worthy in an artistic way.

It is certain to be a matter of lasting regret if hasty judgment and ill-considered decision should result in the erection of a memorial that, later on, would be found so seriously wanting in an artistic way as to be quite unworthy of its high purpose.

Local Committees are therefore advised to "make haste slowly" especially as it is felt also that every memorial however simple, should be to the fullest extent possible an original creation, and not one that may be repeated indiscriminately and many times throughout the country. In this way every memorial would take on an individuality of its own and become a special tribute on the part of the committee erecting it, one which the community might regard with justifiable pride as something peculiarly its own.

It is therefore recommended to local committees that before the adoption of tentative plans, and preferably before any plans are made requests for suggestions should be presented to the Advisory Committee. These may be addressed to the Secretary, Ontario Advisory Committee on War Memorials with the assurance that they will receive the most careful consideration on the part of the Committee.

Finally it should be made clear that this Committee desires to be helpful, not to dictate, that it is not interested in any particular form of memorial, nor in any particular designer, craftsman or manufacturer, and that the only end it has in view is the ensuring that the War Memorials throughout the Province shall be, in as high a degree as possible, worthy of the community and the cause.

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A. S. Clarson

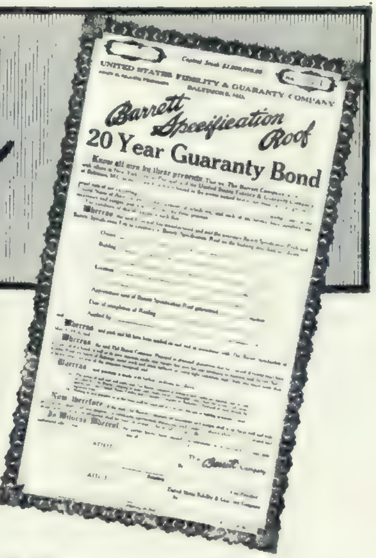
A. S. Clarson, who has just been appointed General Secretarial Manager and Permanent Organizer of the Association of Canadian Building and Construction Industries, has already assumed his duties, with headquarters in Ottawa. After spending the next few weeks in Montreal and Ottawa, Mr. Clarson will make a trip covering the principal cities in the Dominion for the purpose of organizing branches in accordance with local conditions.

The association is national in its scope, and was organized over a year ago, in the first instance through the efforts of J. P. Anglin, then President of the Montreal Builders' Exchange. It was, however, during the early part of the present year the organization was permanently established and officers elected at a conference held in Ottawa, where the outstanding feature displayed was the feeling of good-fellowship and co-operation evinced by the hundreds of members present.

Mr. A. S. Clarson, General Secretarial Manager and Permanent Organizer of the Association of Canadian Building and Construction Industries.

The association will co-operate with the National Reconstruction movement inaugurated

Barrett Specification Roofs



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ON a building like this, the use of a Barrett Specification Roof was practically compulsory.

The roof is large, flat and permanent:

—large enough to justify bringing a gang of skilled roofers to the job,

—flat enough so that the hot pitch would not flow away from the roofers' mops,

—permanent enough to justify a twenty-year roof.

Accordingly, a Barrett Specification Roof was eligible for the job.

The next thing was to compare the Barrett Specification Roof with other suitable roofings.

Durability? A guarantee for twenty years came free with the Barrett Specification Roof.

Satisfaction? No leaks for twenty years is good enough.

Cost to build? Lowest of all permanent roofings.

Cost to maintain? Nothing! (You can't beat *that* figure.)

Cost per year of service? Lowest known to man.

An important feature of Barrett Service is the 20-Year Guaranty Bond issued free, subject to suitable regulations, by the Barrett Company Limited, regardless of the fact that The Barrett Company, Limited, merely supplies materials and does not itself lay roofs. The roof below, for instance, was built by McFarlane Douglas Co., Limited, and George W. Reed & Co., Limited, of Montreal. The Barrett Company, Limited, was notified and it sent inspectors to check up the work and issued to the owners the Barrett 20-Year Guaranty Bond.

A copy of The Barrett 20-Year Specification, with roofing diagrams, sent free on request.

The Barrett Company
LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER
ST. JOHN, N.B. HALIFAX, N.S. SYDNEY, N.S.

Barrett Specification Roof on Hochelaga Power-House, Montreal Tramways Co., Montreal. General Contractors, Raymond Construction Co., Limited; Laurin & Leitch, Montreal. Roofers: McFarlane Douglas Co., Limited, Montreal; Geo. W. Reed & Co., Limited, Montreal.

by the Government, and was organized for the purpose of stabilizing all Canadian construction industries, and will be supported by voluntary contribution until the next general conference adopts a complete constitution for its operation.

Mr. Clarson is an Englishman by birth, and was educated at one of the largest English Public schools, and later at Mason's College, Birmingham (now Birmingham University). He has had over thirty years' engineering experience and business connection on a large scale in various parts of Great Britain, Ireland and the United States, and during the past ten years has resided in Montreal, where he has practised his profession as a consulting engineer in the city of Verdun, P.Q., and other municipalities. He is an Associate Member of the Engineering Institute of Canada; Member of the National Highway Traffic Association, New York; American Road-Builders' Association; Fellow of the Royal Colonial Institute, of London; Member of the Montreal Board of Trade; Justice of the Peace for the city and district of Montreal; President and Life Member of St. George's Society, of Montreal; Chairman of the Joint Committee of the National and Kindred Societies of Montreal, and President of Christ Church Cathedral Men's Club.

◆

REGINA WAR MUSEUM COMPETITION..

According to a recent news despatch, conditions of a competition for the selection of an architect for a Provincial War Memorial Museum to be erected at Regina, Sask., have been announced by Hon. Archie McNab, Minister of Public Works. The successful architect will be given the commission for the work, while a limited number of those whose designs are favorably assessed will be awarded prizes of a thousand dollars each.

◆

Moved to New Offices

Alcide Chaussé, Architect, has removed his offices from No. 367 Beaver Hall Square, to No. 72 Notre Dame Street East, Montreal.

◆

Memorial to be Built on Historic Site

(*Continued from page* 126.)

which of course, is not the case. An effort should be made to correct this erroneous impression. The architect and the sculptor should collaborate in the production of all work of this character and especially as regards our illustrious dead. In fact, all monuments and memorial buildings should by their beauty of detail, excellence of execution and general architectural merit typify the high ideals which called for their erection. In either case, they should be made the most beautiful monument, or the most beautiful building in the community so as to be worthy of the great purpose for which they stand and represent aesthetically the noblest emotions of our race.

◆

A HANDY BOOK OF INFORMATION.

The eighth edition of the Trussed Concrete Steel Company's catalogue, just issued, is a very complete handbook of vest pocket size. Besides describing the principal "Truscon" products, it contains a number of tables giving the safe loads for various types of floors and concrete beam design. The illustrations show practical constructive methods involving the lines this company manufactures, and there is much useful information which makes it a book of special value to architects, owners and building contractors.

◆

CONTRACTORS and SUB-CONTRACTORS

As Supplied by the Architects of Buildings Featured in This Issue.

OFFICE BUILDING, THE JOHN BERTRAM & SONS CO., LTD., DUNDAS, ONT.

Automatic Telephones, Chicago Automatic Electric Company.
Brick, Milton Pressed Brick Company.
Boilers, Dominion Radiator Company.
Clock System, International Business Machine Company.
Electrical Work, Culley & Breay.
Fire Protection System, Anguish & Whitfield.
Flooring, P. H. Secord & Sons, Ltd.
Galvanized Iron, Wilkinson & Kompass.
General Contractors, P. H. Secord & Sons, Ltd.
Granite and Bedford, McIntosh Granite Company.
Gypsum Block, Ebsary Gypsum Block.
Heating, Anguish & Whitfield.
Hollow Tile, National Fire-Proofing Company.
Metal Doors and Steel Sash, A. B. Ormsby Company, Ltd.
Metal Lockers, Dennis Wire & Iron Works.
Metal Locker, Benson Johnson Co.
Marble and Tile Work, Canada Glass, Mantels & Tiles, Ltd.
Ornamental Iron, Architectural Bronze & Iron Works.
Painting and Glazing, F. G. Roberts & Company, Ltd.
Plastering, P. H .Secord & Sons, Ltd.
Plumbing, Anguish & Whitfield.
Radiators, Dominion Radiator Company.
Roof Covering and Sheet Metal Work, John E. Riddell & Son.
Steel Desks, Office Specialty Company.
Structural Steel, Hamilton Bridge Works.
Vacuum Cleaner System, Anguish & Whitfield.

PRATT & WHITNEY BUILDING, DUNDAS, ONT.

Cement, Canada Cement Company.
Concrete Work, P. H. Secord & Sons.
Dumb Waiter, Otis-Fensom Elevator Company.
General Contractors, P. H. Secord & Sons, Ltd.
Granite Door Sills, Ritchie Cut Stone Company.
Hardware and Slate Work, Kent, Garvin & Company.
Hardwood Flooring, P. H. Secord & Sons, Ltd.
Heating and Sprinkler System and Electric Lighting, Bennett
Hollow Tile, National Fire-Proofing Company.
Lathing and Plastering, R. C. Dancy.
& Wright.
Painting and Glazing, F. McQuillan.
Plumbing, Chas. Taylor & Company.
Reinforcing Steel, Bains & Peckover.
Roofing and Sheet Metal Work, Thomas Irwin & Son.
Steel Sash, A. B. Ormsby Company.
Steel Fence, Frost Steel & Wire Company.
Structural Steel and Stair Railings, Dennis Wire & Iron Works.
Wire Partition, Dennis Wire & Iron Works.
Waterproofing, Toch Bros, R.I.W., and Wadsworth & Howland.

DECORATIVE SCHEME OF ST. JAMES' METHODIST CHURCH, MONTREAL.

Lighting Fixtures, Robert Mitchell Co.
Painting, Henry Morgan & Company.
Upholstery and Curtains, Goodwins, Ltd.

DOMINION STEEL PRODUCTS COMPANY'S PLANT, BRANTFORD, ONT.

Boilers, Waterous Engine Company.
Brickwork and Foundations ,P. H. Secord & Son.
Electrical Work, Factory Products Company.
General Contractors, Austin Company.
Lavatory Equipment, James Robertson Company.
Plumbing, T. J. Minnis.
Radiators, Dominion Radiator Company.
Steel Sash, Trussed Concrete Steel Co.

DOMINION STEEL PRODUCTS COMPANY'S WORKMEN HOUSES, BRANTFORD.

Furnaces, Buck Stove Works.
General Contractor, D. O. Johnson.
Heating, Taylor & Son.
Plumbing, Taylor & Son.

SASKATCHEWAN TUBERCULOSIS SANATORIUM, NEAR FORT QU'APPELLE.

Electric Uork, G. A. Espley.
General Contractors, Poole Construction Company.
Heating, Cotter Bros.
Mill Work, Cushing Bros.
Plastering, Harrington Bros.
Painting, W. R. Talbot.

CONSTRUCTION

May, 1919 Volume XII, No. 5

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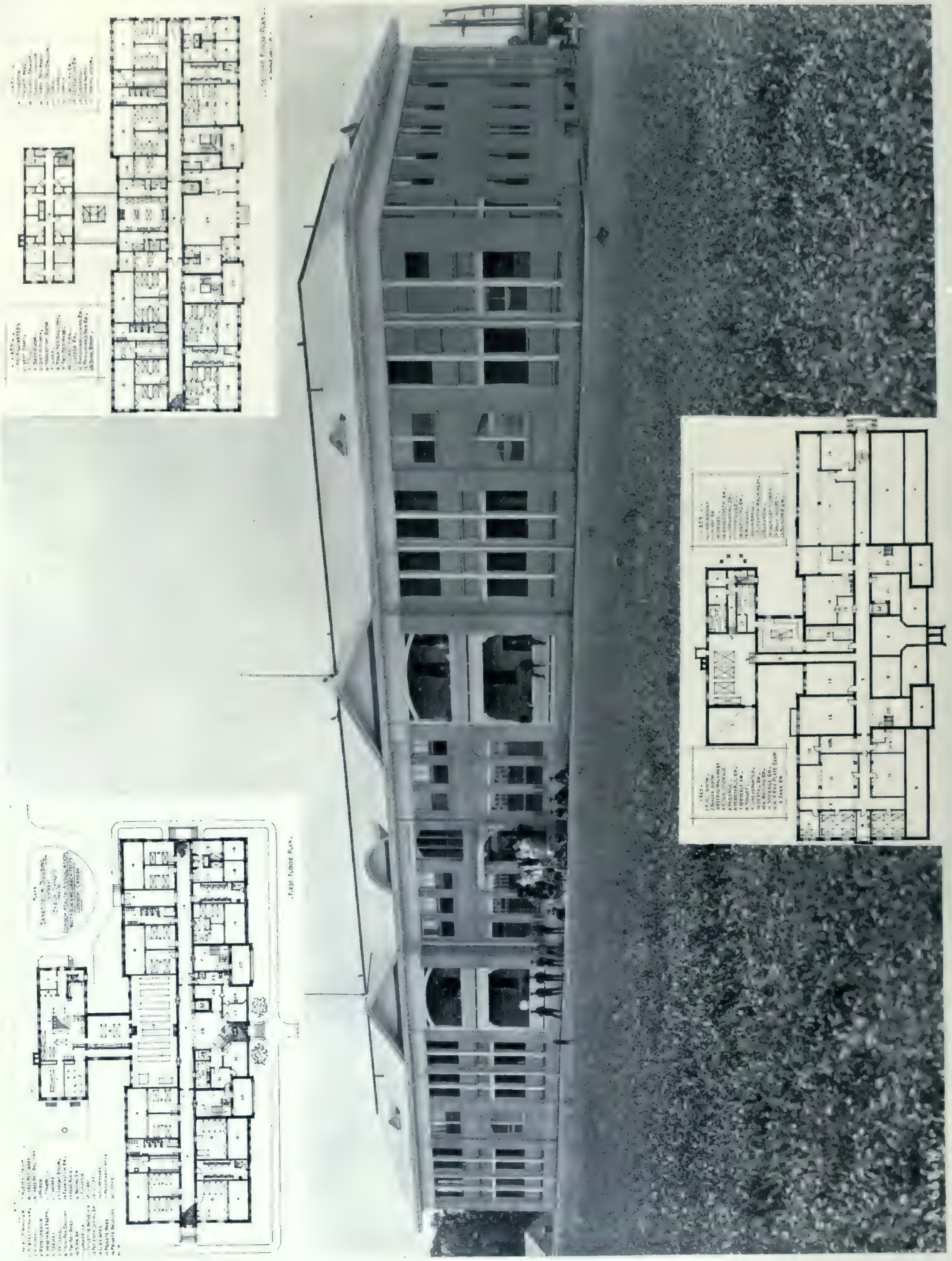
H. GAGNIER, Limited, Publishers
GRAPHIC ARTS BLDG., TORONTO, CANADA
BRANCH OFFICES
MONTREAL NEW YORK



SOLDIERS' INFIRMARY, QUEEN ALEXANDRA SANATORIUM, BYRON, ONT.
Watt & Blackwell, Architects.

Queen Alexandra Sanatorium, Byron, Ont.

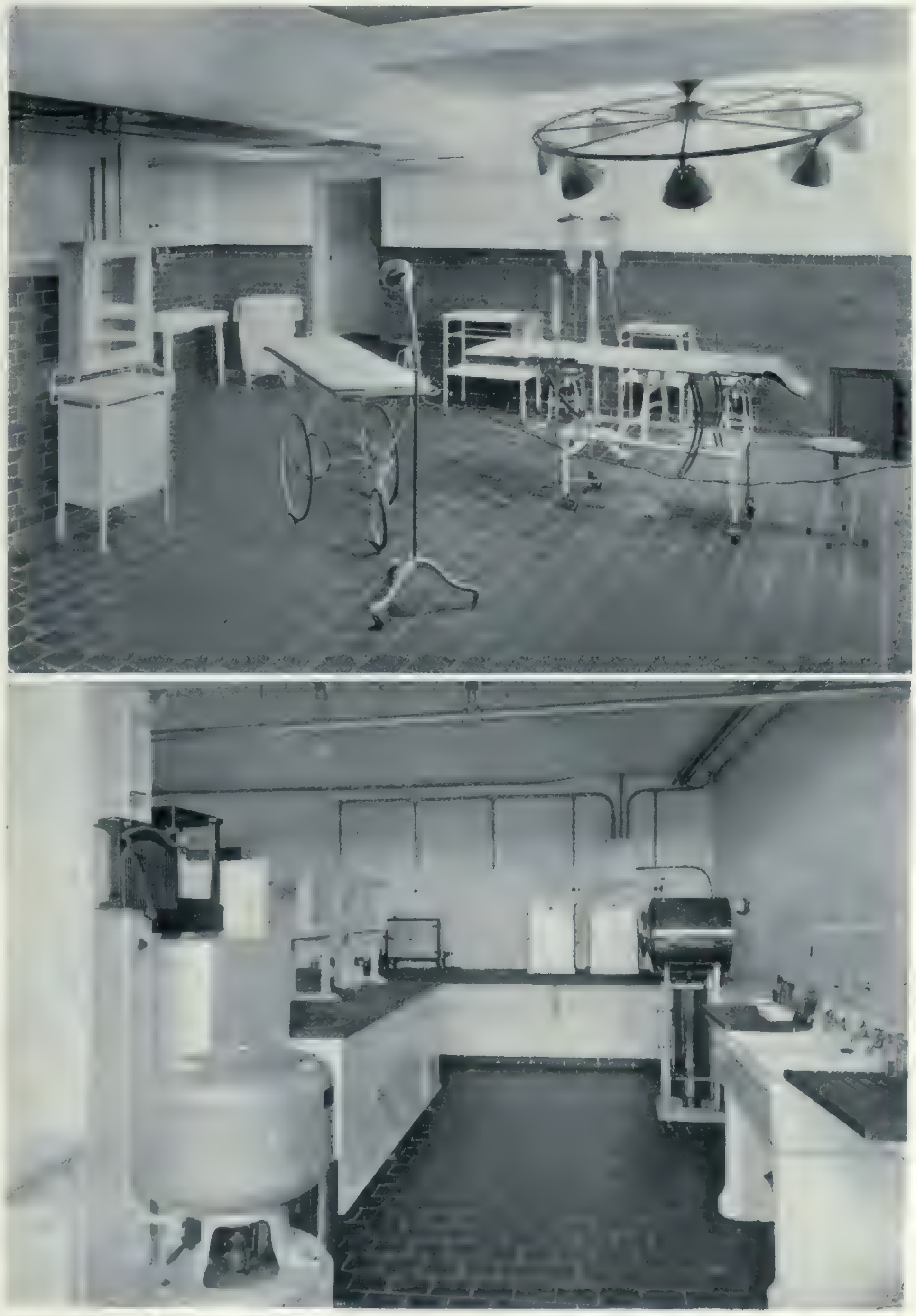
THE Queen Alexandra Sanatorium, at Byron, Ont., was founded by the London Health Association about eight years ago through the efforts of Sir Adam Beck, then Mayor of the city of London, and is the most modern and best equipped institution of its kind in Canada, and equal to any elsewhere on this continent. At the beginning of the war it comprised a group of buildings including an Administration Building, infirmaries for both sexes, patients' cottages, physicians' residence, and the required farm buildings, laundry and help quarters; administering in all to the needs of about 100 patients for Western Ontario.

While originally established as a civil institution for the treatment of tubercular cases, it has, owing to the return of a large number of soldiers suffering from the effects of being gassed and lung trouble brought on through hardships otherwise encountered, now assumed the character of both a civil and military hospital.

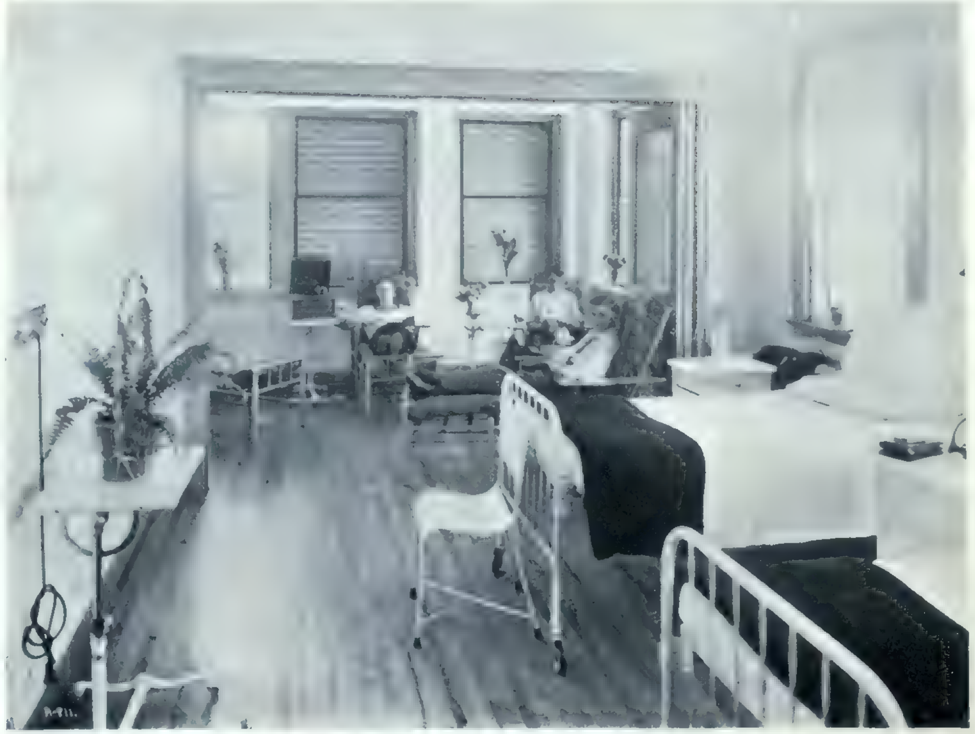
In order to provide the extra accommodations thus required, the Military Hospitals Commission, shortly after the commencement of hostilities, built three pavilions for the immediate care of cases coming under its jurisdiction, and in the meantime funds were raised through a patriotic campaign for the erection of the Soldiers' Infirmary, which in itself accommodates 100 patients. To these have since been added, by the co-operation of the London Health Association, a 48-bed pavilion, built by the Department of Civil Re-Establishment; four open pavilions, a nurses' home, and a Vocational and Recreation building.

The Soldiers' Infirmary, or Reception Hospital, which is the most important building in the group, constitutes a complete unit in itself for the treatment of those suffering with the disease in the more advanced stage. In this building are complete accommodations and equipment for the scientific treatment of the patient, such as a complete X-ray equipment, pathological laboratory, operating rooms, dental room, throat room, etc., as well as offices for the administration of military patients.

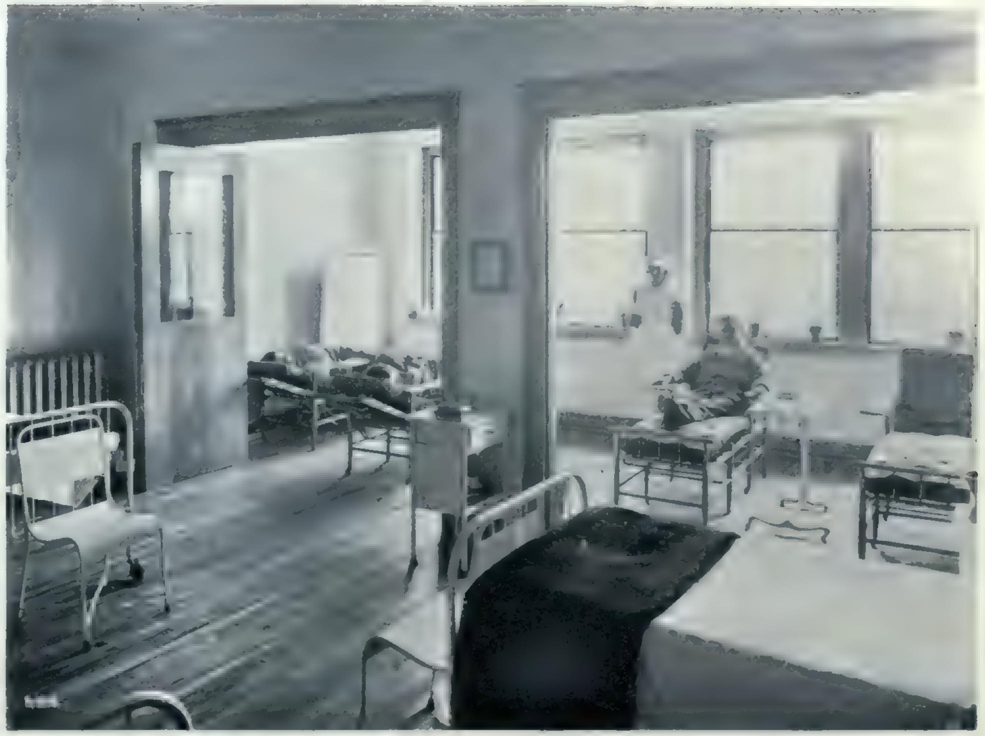
The units are divided into four-bed, two-bed and single wards, each with a bed balcony where the patient may get the benefit of air and sunshine. The window openings throughout, in fact, are all arranged to admit the maximum amount of sunlight and air, and provided with



UPPER VIEW: OPERATING ROOM. LOWER VIEW: PATHOLOGICAL LABORATORY.
SOLDIERS' INFIRMARY, BYRON, ONT.



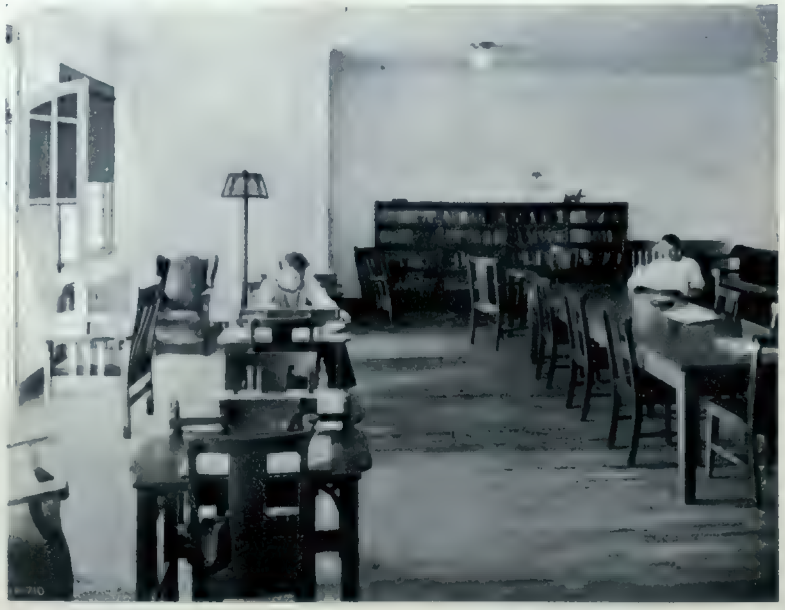
WARD.
DOUBLE



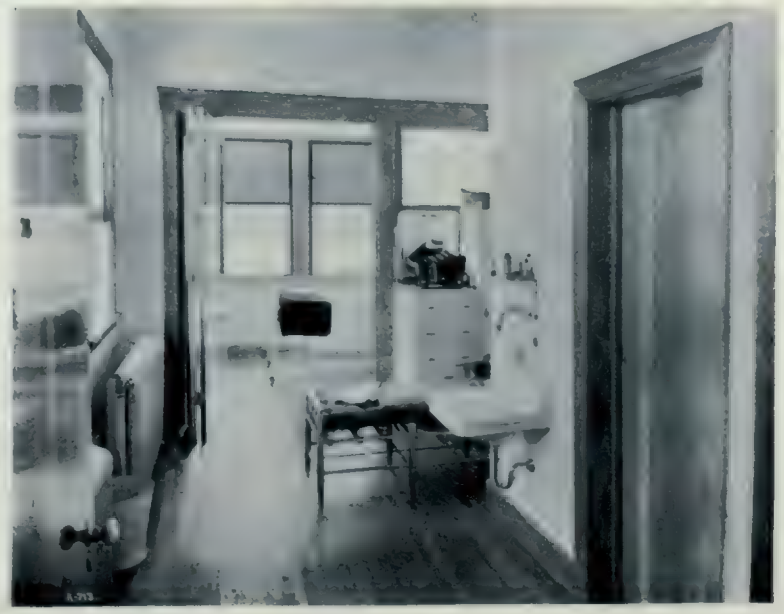
FOUR BED
WARD.

SOLDIERS' INFIRMARY.
QUEEN ALEXANDRA
SANATORIUM.
BYRON, ONT.

Watt & Blackwell, Architects.



READING
ROOM.



SINGLE
WARD.

a louvre sash whereby the patient may still have plenty of fresh air on rainy days.

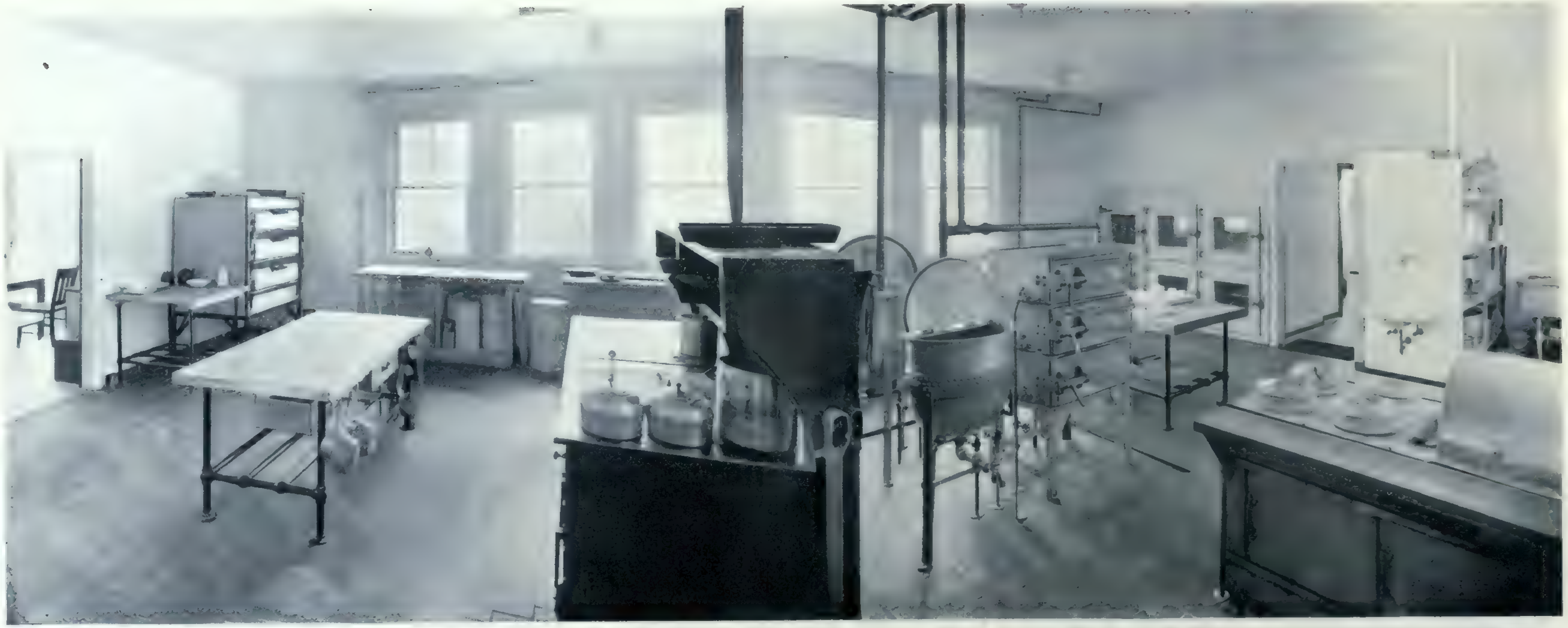
In addition to the various wards, there are four completely equipped nurses' stations, with private toilets, sterilizers, etc.; also four completely equipped patients' toilets, a feature of which being the rose spray attachments to all lavatories, whereby the patients wash in running water at all times. On the second floor of the building is a reading room, a bright and airy interior, together with a modern diet kitchen.

One feature of the plan is the separating of the kitchen from the main building, thus keeping all kitchen odors away from the patients. The kitchen is a model of cleanliness, all cooking being done by electricity. In fact, cleanliness is the keynote throughout. The corridor floors and the stair heads are of 6 x 6 inch quarry tile, and all mouldings have been eliminated where possible, so as to make everything of a sanitary character.

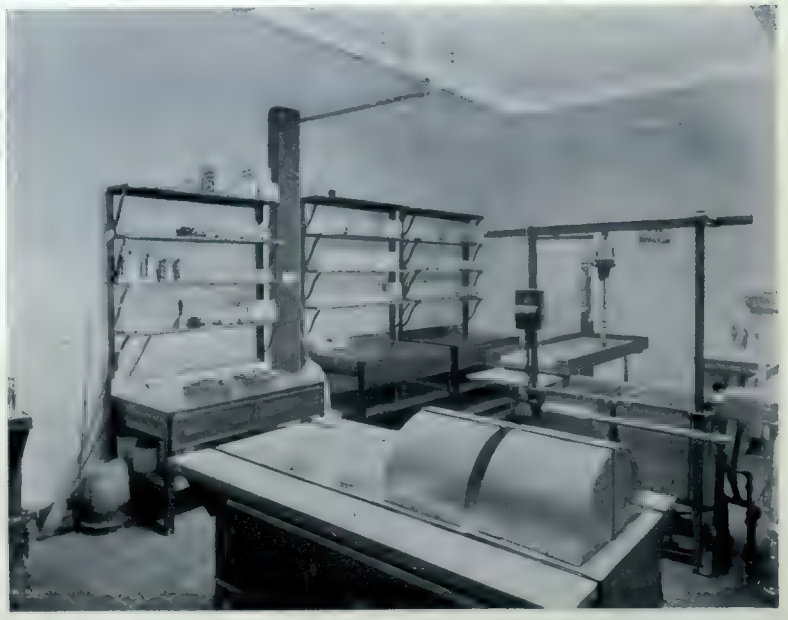
The 48-bed pavilion, which has been built by the Department of Civil Re-Establishment, is for ex-members of His Majesty's Military and Naval Forces suffering from tuberculosis in the incipient stage. The erection of buildings of this size by the Department is a departure from the usual procedure, insofar as it has been the general custom in the past, both in the United States and Canada, that buildings for the treatment of incipient cases accommodate only sixteen or thirty-two patients, depending upon

X-RAY ROOM, SOLDIERS' INFIRMARY, BYRON, ONT.

DENTAL ROOM, SOLDIERS' INFIRMARY, BYRON, ONT.



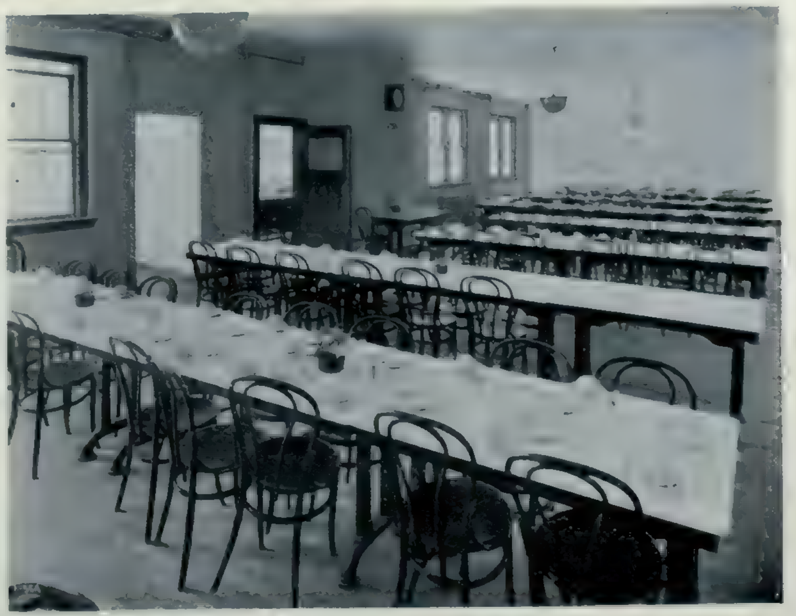
GENERAL VIEW OF KITCHEN.



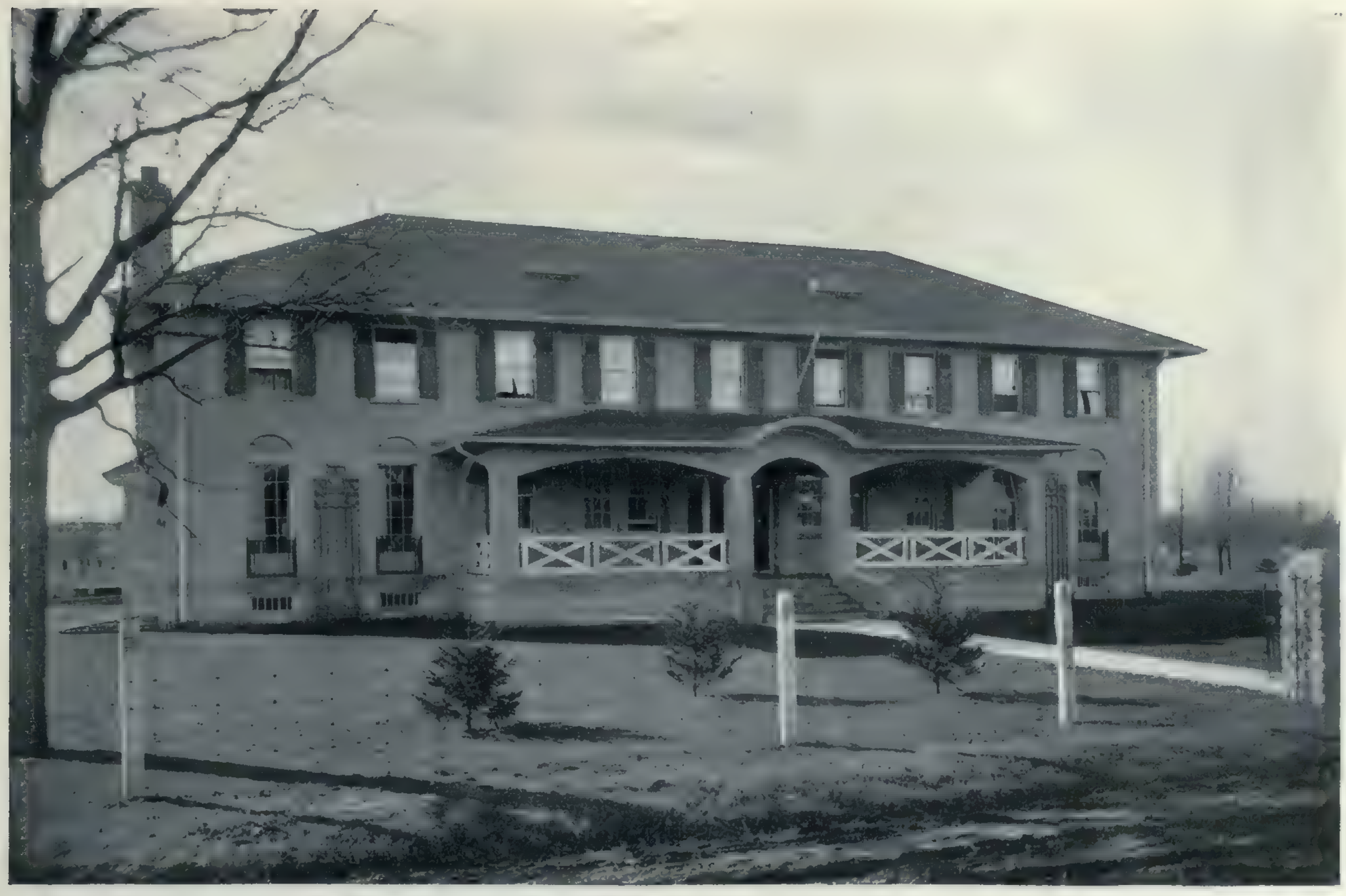
SERVING PANTRY.

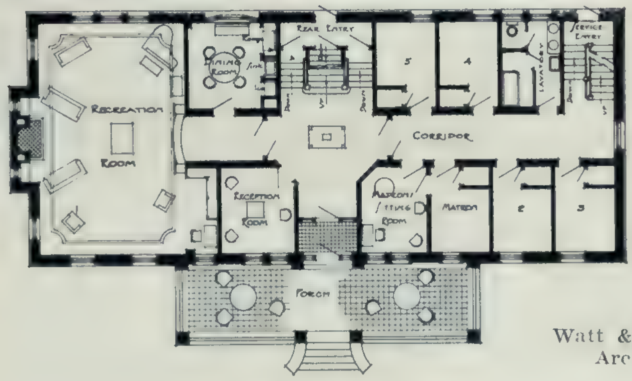
SOLDIERS' INFIRMARY.
QUEEN ALEXANDRA
SANATORIUM
BYRON, ONT.

Watt & Blackwell, Architects.



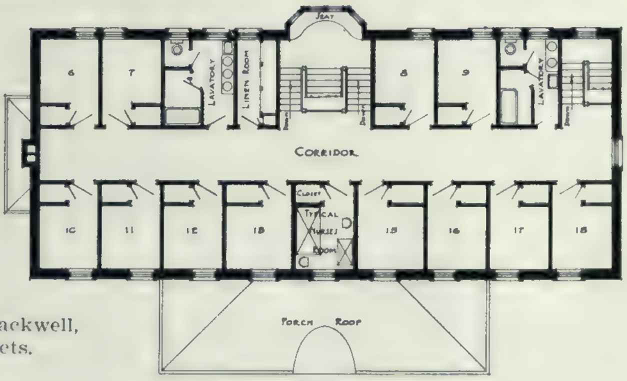
DINING ROOM.





FIRST FLOOR PLAN.

Watt & Blackwell,
Architects.



SECOND FLOOR PLAN.

MARION BECK NURSES' HOME, BYRON, ONT.

whether the structures were of one or two stories. The Department, however, after careful consideration bearing upon the matter of Ward supervision, and the cost of erection, have firmly established that under certain conditions 48-Bed Pavilions are extremely satisfactory as regards supervision, and may be erected more economically in proportion to the accommodation obtained.

The layout of this type lends itself only to locations where extremes of climate are not encountered. Consequently, its use in Canada is limited to parts of British Columbia, Western Ontario and certain parts of the Maritime Provinces. In other locations where extremes are prevalent, this type is not recommended.

In observing the plan and elevation of the building, it will be noted that there are four distinct wards, of twelve beds each. Each ward is a self-contained unit, having in connection with it recreational accommodation, toilet and ablution facilities, linen stores, emergency ward, and private dressing room space for each patient. By such a layout it is possible to have four distinct communities in the same building, all under one supervision, but at the same time all enjoying separate facilities as regards service.

The toilet and ablution facilities are removed as far as possible from the living quarters of the patients. This is most desirable from a sanitary standpoint. The wards are of sufficient width to permit the use of reclining chairs for each patient. An abundance of light and ventilation is obtained by the use of triple hung sliding sash. The use of this type of window has been standardized for some time past, but certain objections have arisen in connection with its use, as it was found that during severe storms and inclement weather they could not remain open without serious discomfort to the patients. This drawback has been overcome by the provision of hinged transoms placed over the triple hung sash.

The introduction of an Emergency Room to each ward of twelve patients is an innovation which has been most successful. A patient having a sudden relapse can be removed from the ward without causing inconvenience or distraction to the other patients.

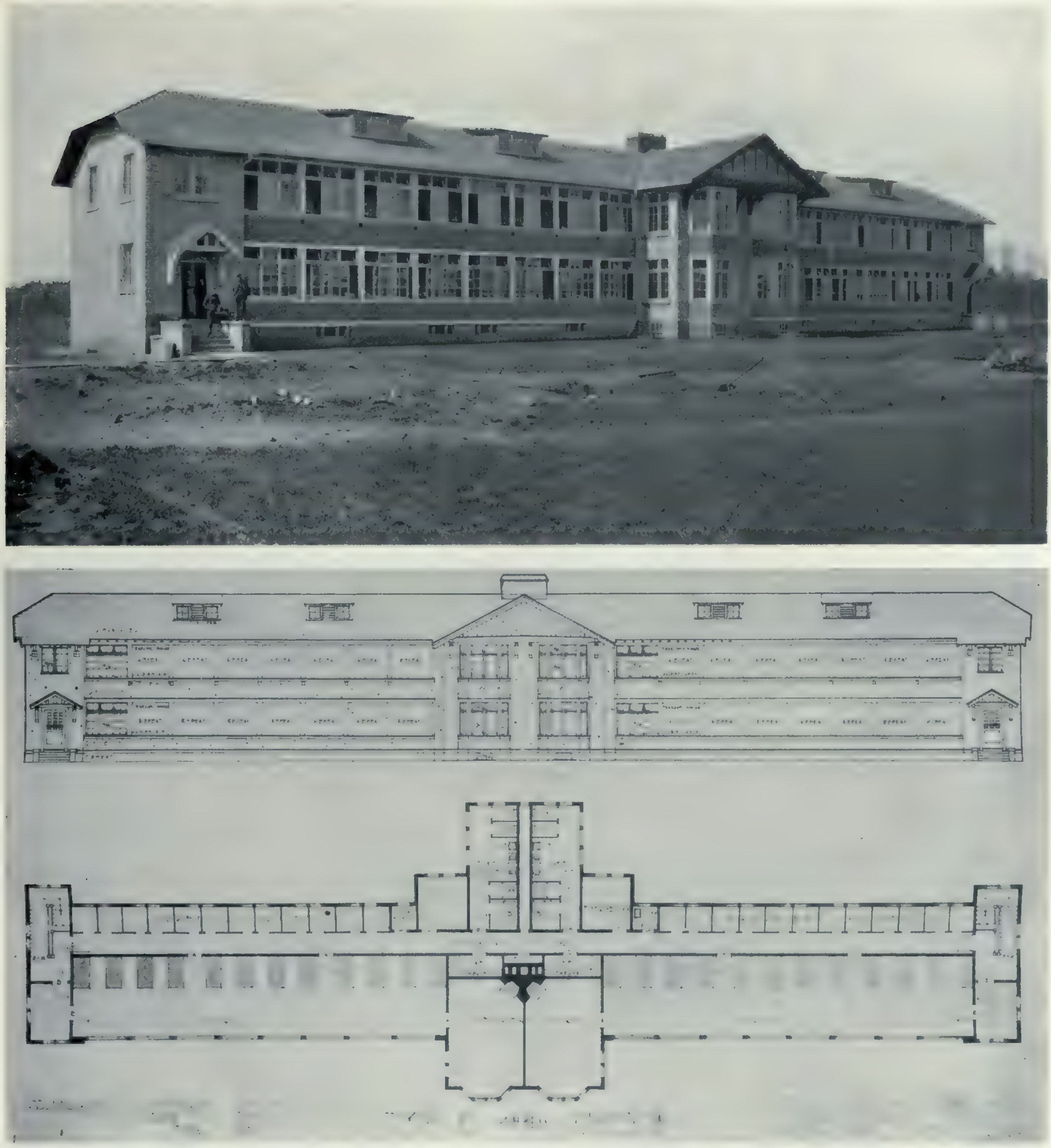
Private dressing room space is provided for each patient, in the form of cubicles in direct connection with the communicating corridor. These cubicles are of sufficient size to accommodate each patient's personal effects, together with a chair and dresser. The partitions of the cubicles are only seven feet high, thus allowing perfect air circulation.

The toilet and ablution facilities are complete in every regard. The fixtures consist of 2 w.c.'s, 1 dental bowl, 2 lavatories, 1 shower bath, and 1 stationary bath. The floor of this room is in red quarry tile, and the walls in white enamel on Keen's cement plaster.

All portions of the building are hot water heated with the exception of the wards. The lighting fixtures have been selected with special regard to the eye comfort of the patients. The exterior treatment of the building is a combination of stucco and brick, which combination lends itself admirably to the general design of the building. The severe lines of the roof are amply relieved by the introduction of four dormer windows, the centre light of which is louvred for the purpose of ventilating the dead air space.

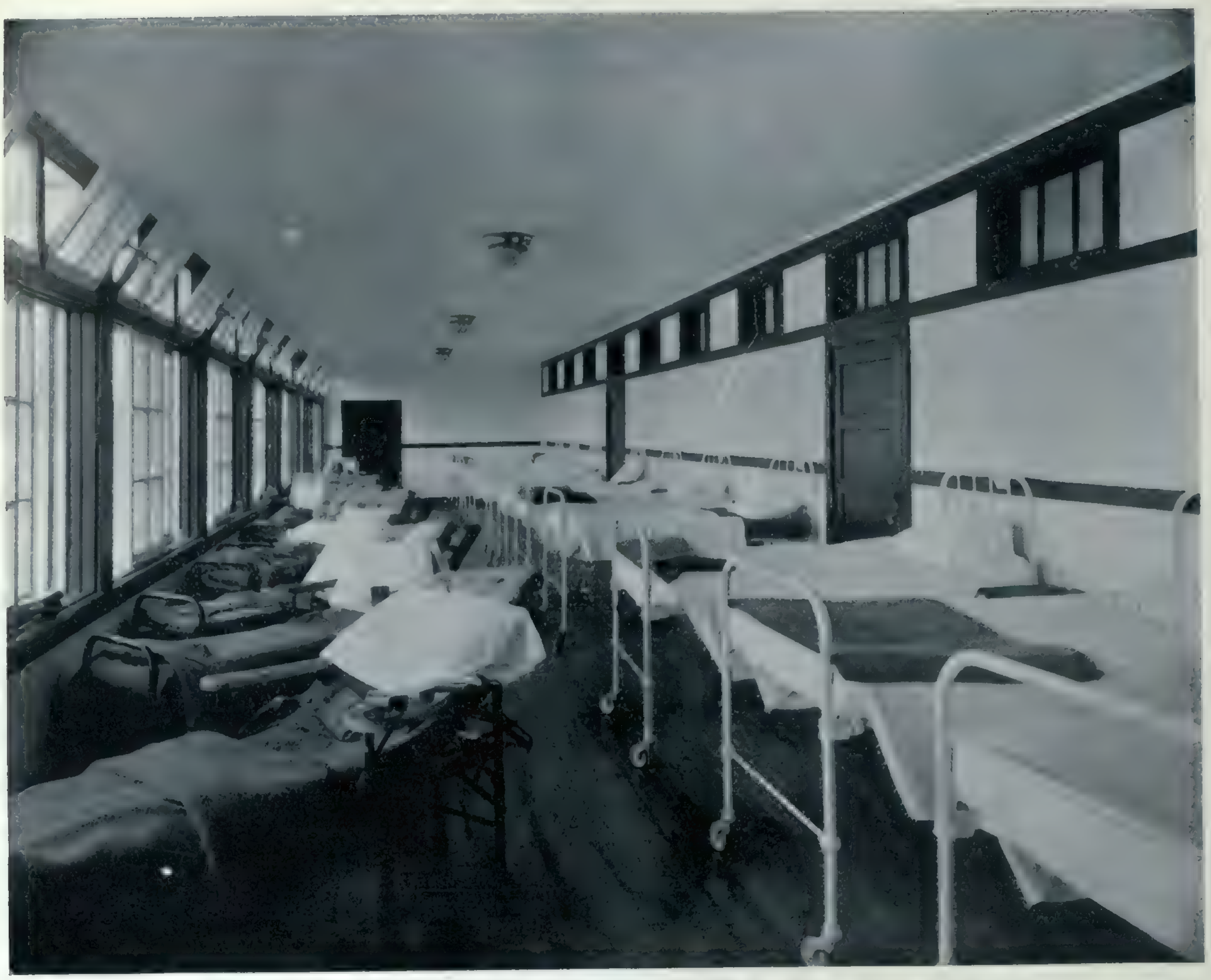
LIVING ROOM, MARION BECK NURSES' HOME, BYRON, ONT.

Two other necessary and important buildings in the group are the Marion Beck Home, as the nurses' quarters are known, and the new Vocational and Recreation Building, both of which have been completed within the past two years. The former, which is planned to provide for future extensions, was built and furnished through the generosity of Sir Adam and Lady Beck, and is considered an ideal building of its kind, having a large living room for the use of the nurses when off duty, and modern appointments throughout. The Vocational and Recreating Building was erected jointly by the Provincial Government and the Military Hospitals Commission, thus giving the patients a building where they can be fitted for future careers as well as a place where they can enjoy concerts and moving picture entertainments.



48 BED PAVILLION, BYRON, ONT. ERECTED FROM STANDARD PLAN OF THE DEPARTMENT OF CIVIL RE-ESTABLISHMENT, OTTAWA. Watt & Blackwell, Supervising Architects.

The buildings are all beautifully situated, being on the brow of the river bank some two hundred feet above the water, yet accessible to the roadway and overlooking Springbank Park on the opposite shore, one of the finest natural parks in Canada. The high elevation of the site, absolute purity of the water, the fact that the Sanatorium is readily accessible to the



INTERIOR OF 48 BED PAVILLION, ERECTED BY DEPARTMENT OF CIVIL RE-ESTABLISHMENT.

patients' friends, together with the competent staff, makes it an ideal institution of its kind and one which is rendering a splendid service to both the city of London and vicinity and the whole of Western Ontario.

Many visitors, in fact, including Dr. A. B. Macullum, Sir James Lougheed and other prominent persons in public and private life who have made a close study of institutions of this kind, have expressed the highest admiration for the arrangement of the place and the ultimate utility it will have owing to the permanent character of its buildings.

The total number of both military and civilian patients being cared for is now about 400. Every standard device of recognized merit is included in the hospital equipment and no expense has been spared to provide adequate means with which

COW BARNS, QUEEN ALEXANDRA SANATORIUM, BYRON, ONT.

RECREATION AND VOCATIONAL BUILDING, BYRON, ONT.

to enable the staff to successfully treat the patients, the percentage of arrested cases being the best evidence of the efficient manner in which the work is carried on.

In the erection of these buildings, which altogether cost some $600,000, it was also found necessary to enlarge the dairy barns, piggery, poultry houses, laundry, etc., and the latter are all of an up-to-date character.

Zinc in Building Construction

Zinc is coming largely into use for building construction. The New Jersey Zinc Company has recently erected in New York, for their own use, a building in which they have shown what can be done with zinc. Flashing, gutters and all other outside work, are of rolled zinc. The entrance and vestibule doors are constructed of sheet zinc rolled on wood. Knobs and locks are made of zinc plate. A

INTERIOR VIEW OF ABOVE BUILDING.

PAVILLIONS 1, 2, 3, AND 4,QUEEN ALEXANDRA SANATORIUM, BYRON, ONT.

zinc alloy is used for the hinges. The surfaces of the side walls of the lifts are of zinc. Further, the lift-gates and bell-plates are zinc coated, giving a rich satin finish. All the window hardware is manufactured from zinc plate. This includes sash, locks and handles. For the inside fixtures zinc is consistently employed. The lighting fixtures are of zinc plate, and frames for the lamps are spun and rolled zinc sheets. All ornamental work has been cast from the same metal. The utilizing of zinc in building is an economic feature capable, it is believed, of greater development.—*Engineering and Mining Journal.*

◆

INTERIOR PAVILLION NO. (VE BEDS).

A 525-foot chimney has recently been built in connection with the smelter at Anaconda, Montana, to save the gold, silver, copper and arsenic which has up to the present time been lost in the fumes. As a result of its erection, thirty-two tons of arsenic will be saved daily. The base contains 5,000 cubic yards of concrete and weighs 10,100 tons. The octagon is 96 feet from angle to angle. The stacks consist of special bricks equal to 7,000,000 common bricks and, with the base, weighs 33,700 tons. The stack reaches 6,400 feet above sea level, and is capable of handling 3,000,000 cubic feet of gas and 1,000,000 cubic feet of cooling air per minute at 24 feet per second.

Why Building Materials Should Be Tested

By Emmanuel Mavant.

ONE often wonders why it is that so many engineers and architects seem adverse to having their building and structural materials inspected and tested before accepting them for use in their work. Too often this is omitted during the construction of high-priced dams, bridges, breakwaters, office buildings, theatres, etcetera, where the professional reputation of the engineer or architect, the capital of the investor, and, quite frequently, the lives of many people are at stake.

Is it through ignorance? Is it through jealousy and selfishness, not wanting any other engineer or chemist to share the credit for the appearance or assured safety of the structure? Or is it through a mistakenly economical point of view? We will review these points one by one.

Is it through ignorance? I may answer that in quite a few cases it is. Engineers of high standing have deliberately claimed to me that it was not necessary to test anything, using as an argument that cement was standard, that any experienced man could tell good sand at sight, and that, as far as stone was concerned, limestone was limestone, and that was all there was to it.

These men start the work without knowing the quality of the materials they are using; and, too frequently, their structures fail. If it is concrete, the mass crumbles, disintegrates, cracks, or otherwise goes to pieces, and the average person who sees it concludes that, after all, concrete is a poor investment.

Let us review the arguments of these engineers. They claim that cement is standard. I say it is not; though I know the cement manufacturers, especially the larger ones, do all in their power to have the cement not only up to specifications, but as near perfect as practically possible. But the chemist and superintendent cannot be all over the works at once; and, for that reason, there is always a possibility, though it may be remote, of the cement coming out too fresh, too high in sulphuric anhydride or in magnesia, or too low in specific gravity.

These defects, which cannot be found without having the cement tested, will cause many different troubles in concrete work. For instance, one defect will cause the cement to set too quickly; that is, it will take its initial and sometimes its full set before being placed on the job, or, in other words, while the men are mixing it. In this case, there will be no cementitious qualities between the different lumps of concrete as it breaks up when being deposited, and so many stones covered with mud might just as well be thrown into the forms; the result would be as good.

On the other hand, another defect might cause the concrete to set too slowly. This naturally retards the work, because the forms cannot be taken off as quickly as planned. If the risk is taken and the forms removed, there is a great possibility of the structure failing. If slow-setting cement is used in the winter time, and freezes before it sets, the concrete will soon disintegrate. Even if it should not totally collapse, it will be a constant cause of expense for repairs and an ever-present eyesore.

I had occasion, some time ago, to condemn eighteen cars of cement, containing over sixteen thousand bags, and amounting to over eleven thousand dollars in value. These eighteen cars, which had been purchased by two of our largest Canadian manufacturing firms, were condemned for the reason that the setting took place in from eight to twenty minutes. It should take at least one hour, as determined by the Gilmore needle. Had not that cement been tested, it would naturally have been used, and, without a doubt the work would have failed because of the concrete setting before being placed.

Outside of this particular case, I have had occasion to condemn cement quite a few times in different parts of the country. In the majority of cases the cement manufacturer was not to blame for these failures in cement, but either the railway company or the contractor was responsible. Cement is often stored in unsuitable sheds, where dampness and rain injure it. How many of us have not seen bags that were set as hard as rock taken out of temporary storage sheds? In such an instance, while only certain bags may be unusable, many others—and frequently a large quantity—have been affected to such an extent that they should not be used.

Another instance came to my personal attention last summer. An electric power development company situated in the Province of Quebec were about to raise their dam. The cement was purchased and stored beside the falls, in an enclosure with no front. After this was filled with cement, a few boards were put up to protect the cement from the spray of the falls; but cracks ranging from one to ten inches were in evidence. The result was that the spray reached many of these bags of cement, making some of them so hard they had to be broken up with shovels before using. I drew the attention of the superintendent to this fact, but his answer was that the cement was first-class.

It stands to reason that had this cement been tested before using it would certainly have been condemned, as chemical action had already taken place, rendering it of little value. This is but one of the many cases where the cement company was not to blame, and similar instances occur almost daily; but, whether the manufacturer or the contractor is responsible, if the cement is not tested, and the work supervised by an experienced concrete inspector, the investor is likely to suffer.

Now, let us go into the sand question. It is claimed that any engineer or experienced man can tell good sand at a glance. That is impossible. He may be able to tell that it is too fine, if it is very much too fine, or too dirty, if it is very much too dirty; but beyond that there are no engineers or experienced men who can tell at sight whether this sand or that is good and reliable for strong and dense concrete work.

All sand contains more or less silt or dirt. The reason for this is that it is composed of small particles of broken rock, of different sizes and compositions, coming from different parts. These particles have been washed away or transported from their different sites at different times and settled in layers of different thicknesses in what is now a workable sandbank or deposit. Therefore, there is no guarantee, or even a likelihood, of uniformity, and one carload of sand may be first-class and the next of very poor grade for concrete work.

Also, the dirt and silt, which is very often injurious to sand for concrete purposes, are bound to be present in some parts of the sandbank, because the small particles of rock that are washed towards the bank will naturally carry with them more or less of this fine material.

The above shows conclusively that, in order to be sure of good results, the sand should be tested, not only once, but continually, while the work is in progress.

Besides the avoidance of injurious silt, there is the size or grading of the sand to be considered. It should be well graded, having a certain proportion retained on each sieve from, say, the eighty mesh to the one-quarter inch sieve. If all of the sand grains are of nearly the same size, the voids will be too great, and unless an additional amount of cement is used the voids will not be filled. If too fine, the concrete will not be of the required strength. The reason for having sand well graded is so that the fine particles will fill the voids of the coarser particles, thus reducing them to a minimum.

In order to properly proportion a concrete mixture, it is necessary to determine the voids; for, without this information the engineers are working blindly, and probably wastefully. Where they are figuring on having a good dense concrete for a reservoir, oil tank or foundation, the result is apt to be different; and, if the water goes through the wall, concrete once more gets a black eye.

Another very bad fault in some sands, which cannot be determined without testing, is that they contain injurious chemicals. Sometimes the drainage from some industrial plant, such as a chemical works, soap factory or tannery, though located several miles away, will contaminate a sand supply, rendering it unfit for use in making concrete. As a rule, such contamination is discovered by making three-to-one briquettes with the sand under consideration and also with standard sand. A comparison of the results will soon tell whether or not there are injurious chemicals present.

Some years ago, I had occasion to deal with a very interesting case of the above type. A company decided to build a concrete laundry building in Eastern Ontario on the site where an old stable had been standing for years. They tore down the old building, and in excavating for the cellar ran across such nice-looking sand that they decided to use it in the concrete mixture for the new structure. They had no end of trouble. The concrete would not set, and the walls fell in.

In carrying out an investigation, it was found that briquettes made of this sand would crumble in the hand after seven days' setting. These briquettes were so disintegrated that they could not even be put in the machine to test. An analysis was made, and we found that the sand was saturated with ammonia, which had percolated through from the horse manure.

As a result of this investigation, the sand had to be taken away from the site of the work, the old concrete thrown out, forms rebuilt, new sand purchased, and the work reconstructed. All this delayed the work, cost money for material and labor to replace that wasted, and inconvenienced the owners. A sensible programme of testing would have prevented any of this trouble.

I would venture to say that three-quarters of the failures in concrete are due to poor sand; and then some engineers will not hesitate to state that it is unnecessary to have sand tested.

As far as stone is concerned, the same argument holds as in the case of sand. In order to regulate the mixing of concrete, the voids must be determined; and in order to get good results the stone must be clean, strong, well-shaped and well-graded.

It might well be stated that the best argument for the general inspection and testing of all building and structural materials is that every large corporation, such as the Canadian Pacific, the Grand Trunk, the Canadian National Railways, the Montreal Tramways, the Montreal Light, Heat & Power Company, the Harbour Commissioners of Montreal, Toronto, Hamilton, London and Peterborough, the departments of the governments, provinces, states, the counties and municipalities that are at all progressive, and large private concerns too numerous to mention, all have their materials thoroughly tested before using. The sooner other engineers and architects make up their minds to have testing and construction supervised by experienced men, the sooner eyesores, failures and constant repairs to concrete work will stop.

Is it through selfishness? I happened to interview the city engineer of one of the larger cities of Canada on the subject of supervising concrete construction and the testing of materials for same. After a long conversation, he agreed that the construction materials should be tested, but turned around and said: "Where do we come in? You will be the party doing the work, and getting the credit. The municipal council will say, 'These engineers of ours are no use if they must get their materials tested and work supervised.' If we were to do that, we might find ourselves out of a job."

Whether it is the effect of the above policy or not it is hard to say; but this particular city has had constant trouble and very heavy expenditures for replacing defective work; which expenditure has, of course, fallen upon the taxpayer. They erected a Fat Stock Show building, and the whole thing collapsed. Their water main cracked, and as it was a suction system, sewage, polluted water, and so forth, was sucked into the mains and contaminated the drinking water. This caused a typhoid fever epidemic that carried off in the neighbourhood of a thousand people and forced the city to open emergency hospitals, that it had to furnish and provide with doctors, nurses and orderlies. The boiler in one of their municipal buildings exploded, killing one man, injuring another, and wrecking the building. A pavement about twenty-five city blocks in length took the form of a corrugated road and had to be relaid a few years after it was first put down.

It goes without saying that all this trouble cost the city many thousands of dollars, which expense might, and very likely would, have been avoided had all the materials used in these constructions been tested and the work supervised by someone particularly familiar with each type of construction. Any possible loss of prestige to an engineer or architect through the employment of outside specialized inspection and testing service could not conceivably injure him as much as one such failure as we have mentioned. In fact, after the failure, someone will ask why he did not have knowledge enough to understand that he needed such specialized service. The family physician does not try to operate on his patient's heart; the city engineer should not think it necessary to pretend that he knows it all, either, and the same applies to the outside engineer or architect. Specialists usually pretend to know but one thing, but to know that one thing uncommonly well.

Is it through an economical point of view? With some engineers and architects it is. A good many of them will say that this or that work is not of sufficient importance, or will not be seen, so spending money on tests for it is wasting it. This is very unwise economy; in fact, not economy at all. It is a case of saving the pennies to throw away the dollars; for when the construction materials are tested and accepted by specialists, and the work supervised by them, the engineer or architect is practically relieved of all responsibility except that of having selected competent specialists to do the work. He cannot do all this himself. He must hire someone; so why not those particularly competent to take care of the particular matter for him.

Besides, if his plans and specifications are correct, he is sure there will be no unwarranted expense for repairs, and the structure will be there to stay as a monument to his name and a foundation for his future reputation in the engineering profession.

The engineers and architects who are foremost in their professions would not consider for a moment the proposition to have their plans and specifications executed without full inspection and testing as the work progressed; therefore, why should men who have not reached the pinnacle of professional success risk failures that might forever preclude their arrival?

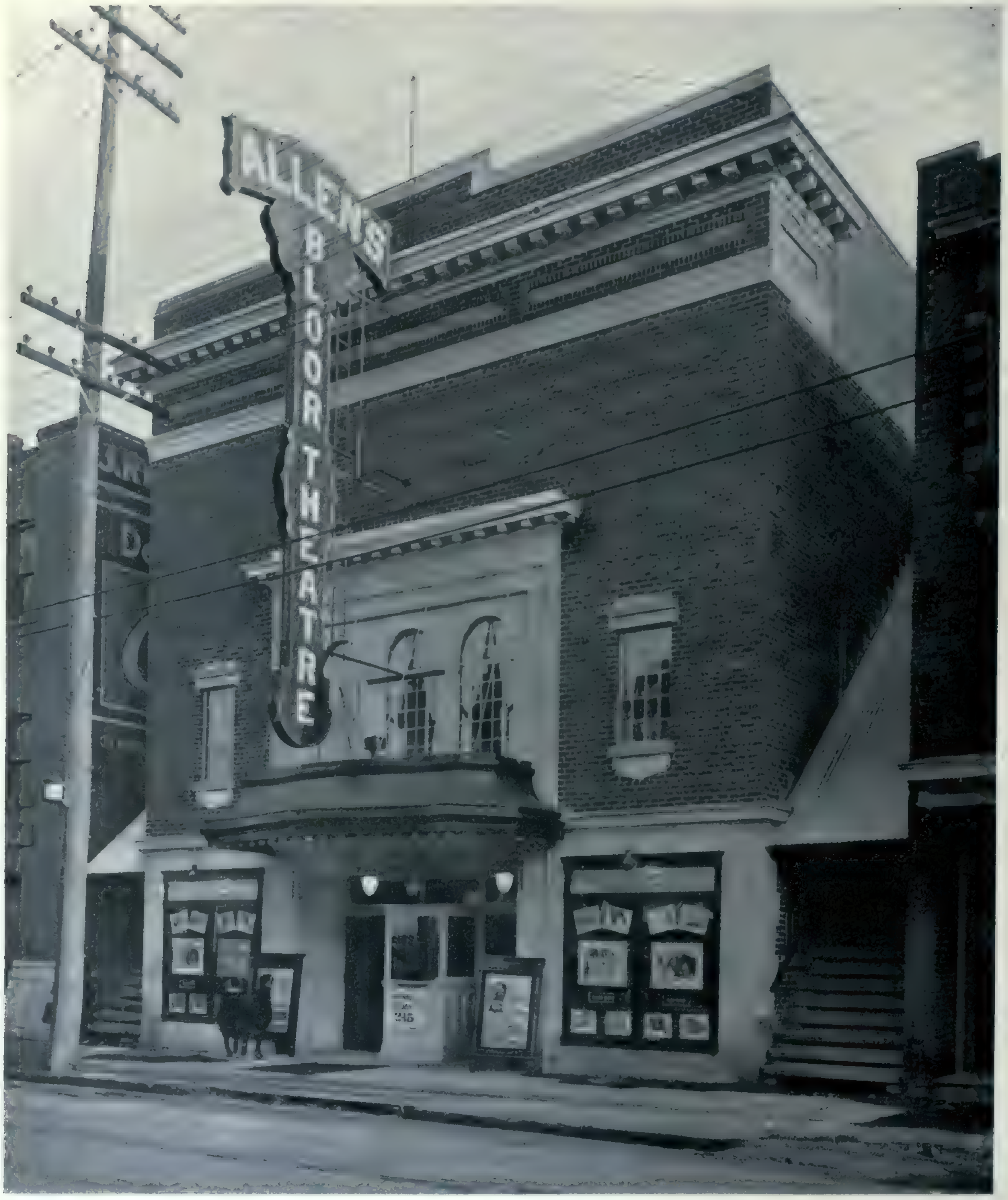
450,000 Buildings Destroyed

Bad sanitation and housing, especially in devastated regions, have made France's problems still more acute than they would ordinarily have been.

A report bearing on this phase of the problem has been announced by Andre Tardieu, who says French official investigators have learned that a total of 450,000 buildings, exclusive of all public structures, were destroyed in France during the war.

Moves to New Offices

The firm of Hynes, Feldman & Watson, Architects, Toronto, have moved their offices from 105 Bond Street to the McKinnon Building, corner of Jordan and Melinda Streets.



NEW ALLEN THEATRE, BLOOR AND BATHURST STREETS, TORONTO.
HYNES, FELDMAN AND WATSON, ARCHITECTS.

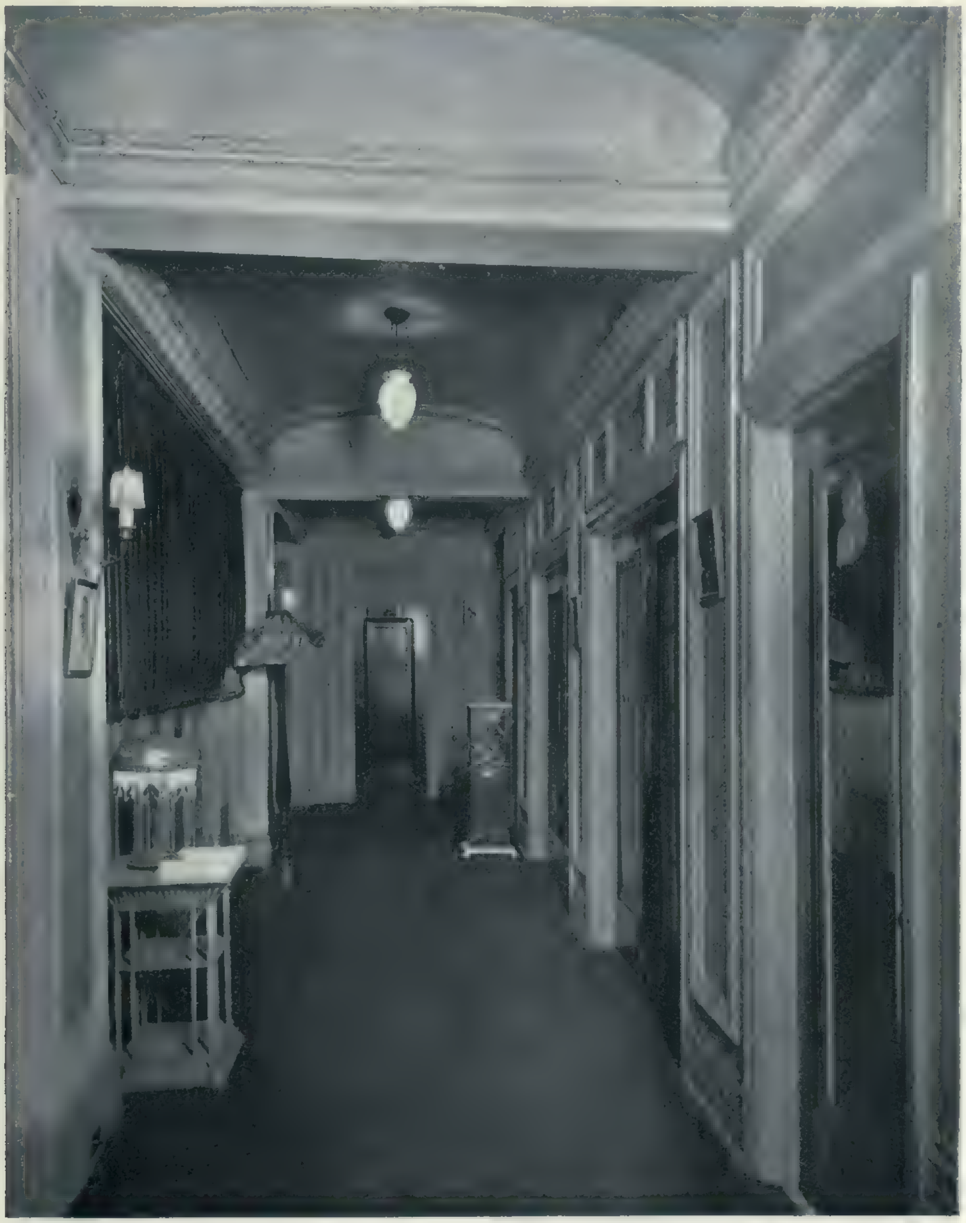
Water Power of the Empire

The author of articles on the Water Power of the Empire in the "Times Engineering Supplement" suggests that the interests of the Empire as a whole and of the individual countries in which water power exists, can best be served by calling into consultation the financial community, the manufacturers of machinery, prospective power users and the owners of water power rights both privately held or those retained by the Crown. The idea would be to form a central committee representing these interests and its primary duty would be to cooperate hydro-electric enterprises in the British Empire and to bring those interested into close touch with each other. It is claimed that such a body would be in a position to give the soundest advice and should have the confidence of all concerned, and that if suitably composed and with loyal co-operation between its constituents it could do much to further the development of water power and of dependent industries.

Mr. Charles H. Bishop, Superintendent of Buildings for the Toronto Board of Education, has resigned, after holding that position continually for thirty years.

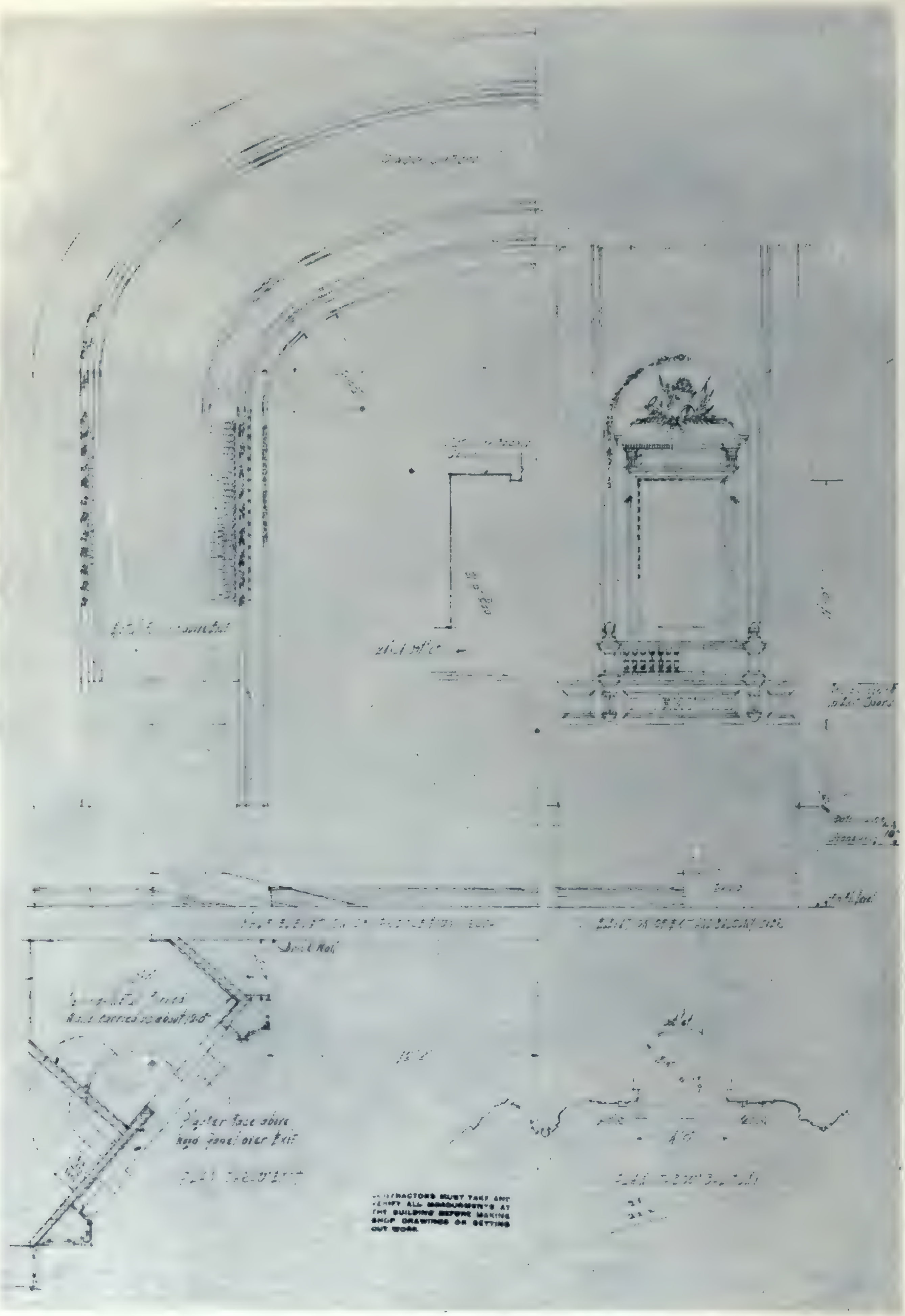
Allen's Bloor Street Theatre, Toronto

TO Messrs. Jules and Jay Allen, of the Allen Theatres, must be given the credit for one of the most notable moving picture enterprises in Canada. It is less than two years that their modern theatre at the corner of Richmond and Victoria streets was opened to the public. Since then this firm has increased its holdings in Toronto alone by two additional picture houses, besides having two others in course of construction, and still two more to be built shortly. It further stands to their credit that the class of buildings they are erecting are designed architecturally to appeal to the better class of "movie" patrons. A typical example of their efforts in this direction is seen in the new Allen Theatre in the vicinity of Bloor and Bathurst streets, which was completed the early part of this year. In this theatre the aim has been to provide attractive surroundings, together with every factor which might contribute to safety, comfort and convenience. The materials used in the construction of the building are mostly brick, tile and reinforced concrete, making it fireproof in character. A feature of the concrete design are the elliptical trusses which span the auditorium and the cantilever beams which extend from the front wall and form the support of the balcony, which seats some four hundred persons.

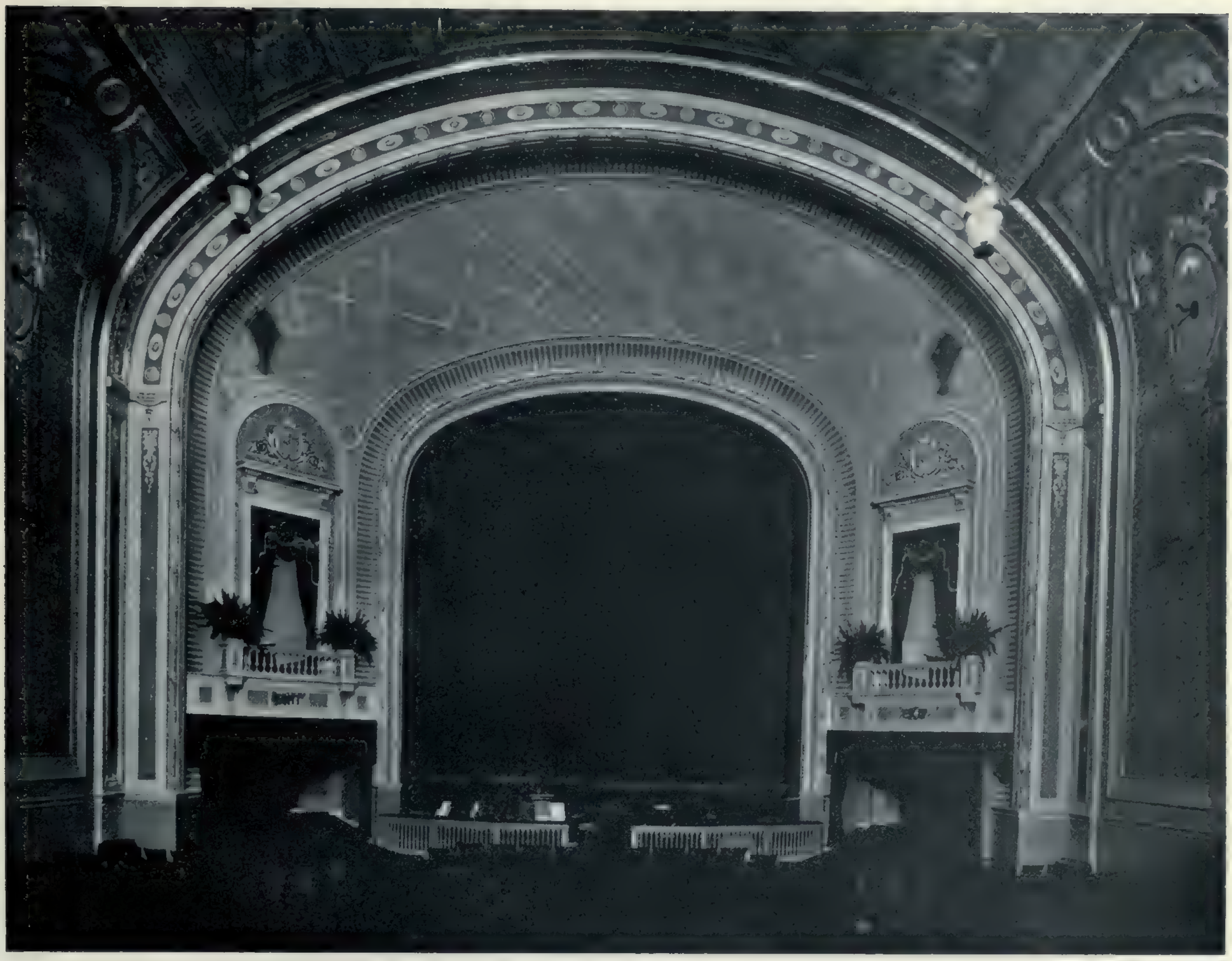


FOYER.

Altogether the general scheme is quite satisfying and pleasing. The exterior, which is carried out in tapestry brick and cut stone, is


Brick Wall
Plaster face above head jamb over Exit
CONTRACTORS MUST TAKE AND VERIFY ALL MEASUREMENTS AT THE BUILDING BEFORE MAKING SHOP DRAWINGS OR SETTING OUT WORK.

DETAIL OF PROSCENIUM ARCH.
NEW ALLEN THEATRE, BLOOR AND BATHURST STREETS, TORONTO.
HYNES, FELDMAN AND WATSON, ARCHITECTS.



PROSCENIUM ARCH, NEW ALLEN THEATRE, BLOOR AND BATHURST STREETS, TORONTO.

quiet in architectural detail and somewhat Italian. Dignified lines, effective in their simplicity, characterize the foyer and mezzanine and terminate in festoons of enriched detail interlacing the ellipse of the ceiling. In the auditorium, which represents a modern development in the Louis XVI. style, the plaster ornamentation is richly detailed and very effectively done. The dominating colors are ivory and old rose, with wall panels of this period. Perhaps the only criticism of the scheme lies in the lack of adornment of the proscenium arch, which could have been improved with further enrichment.

The theatre is equipped with an efficient heating and ventilating system, which regulates the temperature of the auditorium and provides for a constant circulation of fresh air. The seating capacity of the house altogether is about one thousand, and exits are provided at both the sides and rear, in addition to the main entrance.

The Allen interests have also established theatres in a number of other Canadian cities, and, with others being planned and built, will eventually own and control a chain of modern moving picture houses extending from coast to coast.

◆

Change in Partnership

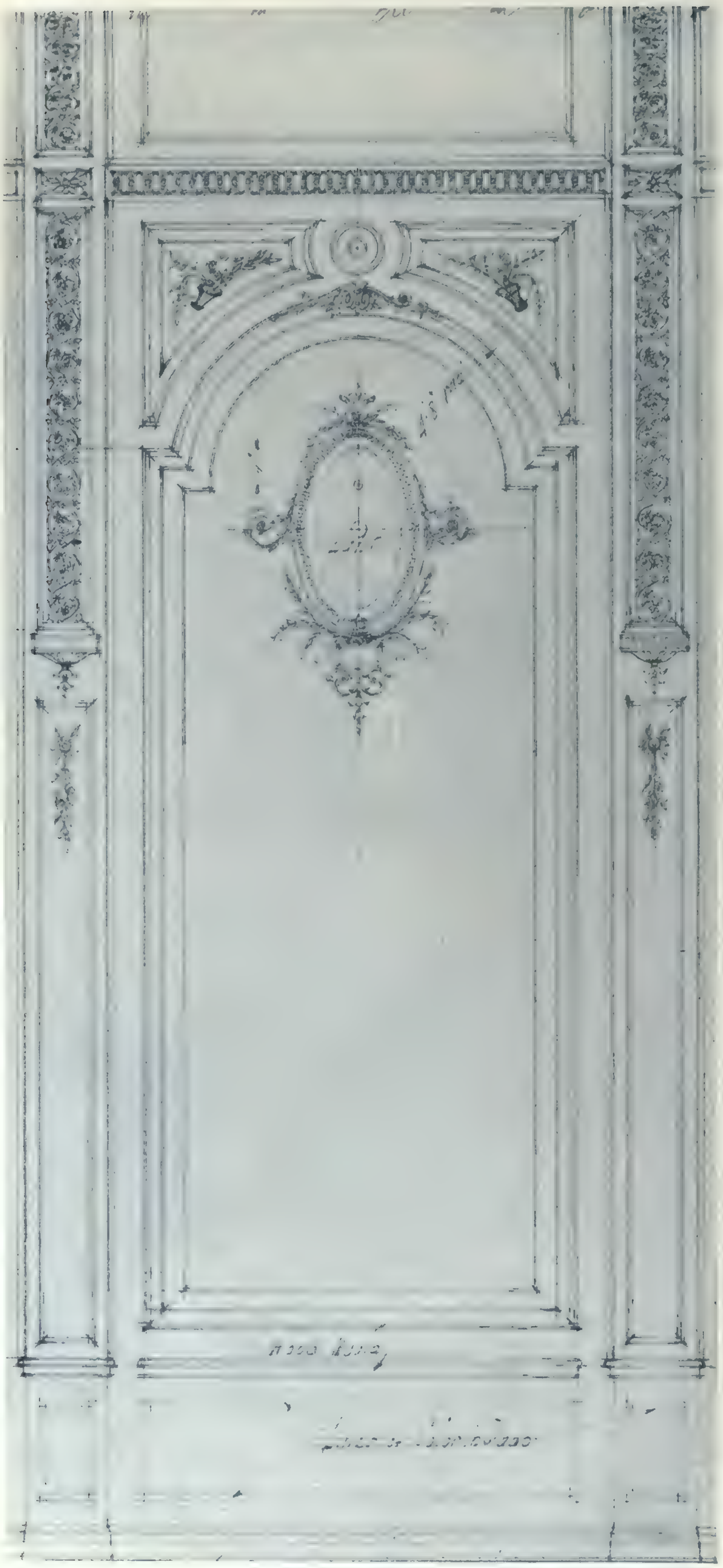
Mr. A. S. Mather, B.A.Sc., has withdrawn from the architectural firm of Banigan, Mather & Thompson, 7 King street east, Toronto, and hereafter the business will be carried on under the name of Banigan & Thompson.

◆

Cheaper Electric Wiring

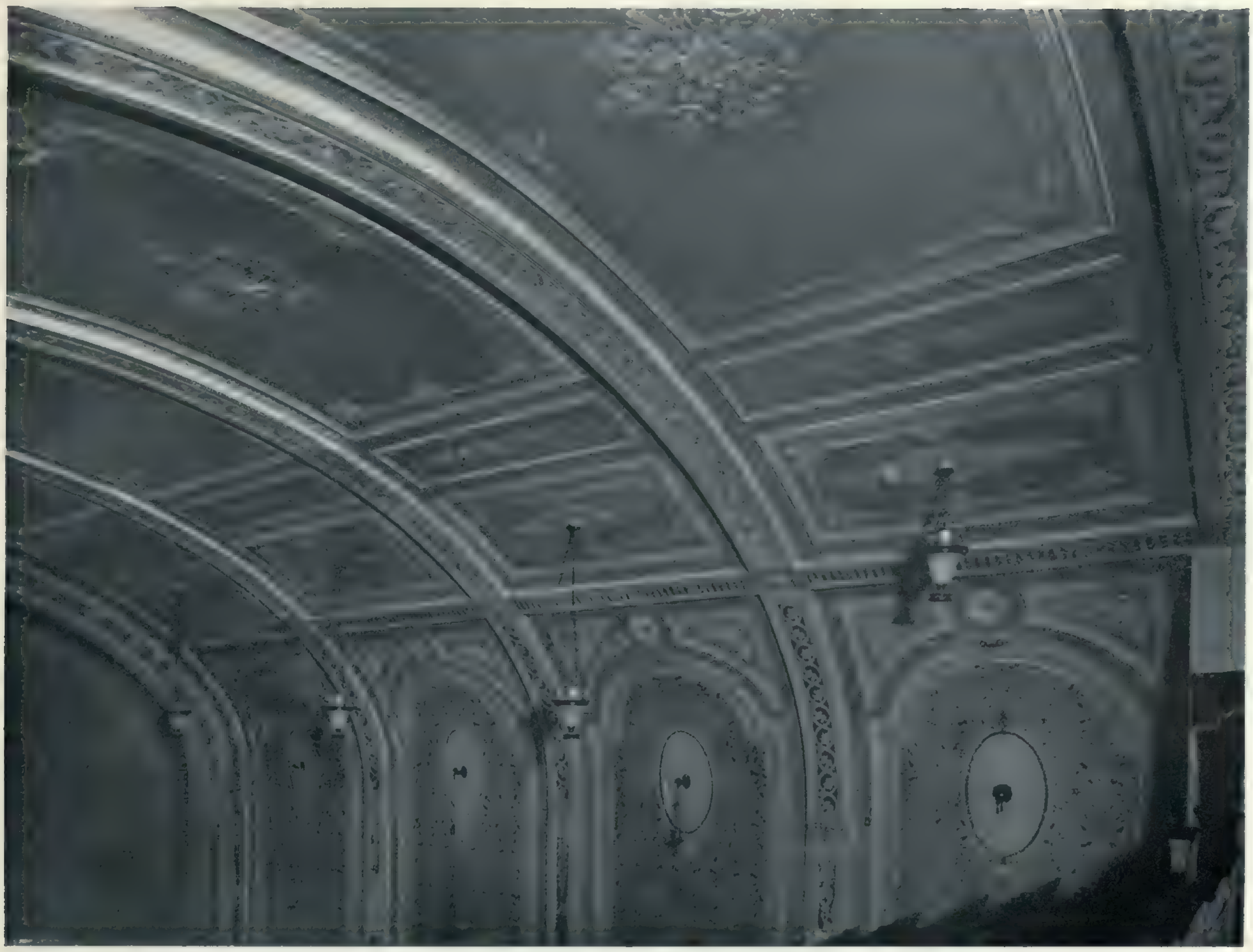
A Special Committee of the Institution of Electrical Engineers (Great Britain) has been formed to consider the revision of the existing rules for electric wiring in buildings. This committee is the outcome of a growing conviction that the high quality of British cables and accessories justifies a relaxation of the standards hitherto imposed. During the war an enormous number of army buildings have been wired on the surface and in other ways not consistent with standard British practice, and the experience thus gained will be turned to account in cheapening the cost of installation

DETAIL
OF WALL
PANEL



HYNES,
FELDMAN
& WATSON,
ARCHITECTS.

NEW ALLEN THEATRE, BLOOR AND BATHURST STREETS, TORONTO.



DETAIL OF CEILING, NEW ALLEN THEATRE, BLOOR AND BATHURST STREETS, TORONTO.

and materials. British manufacturers of wires, switches, insulators and other accessories will thus be led to expand the production of types which will be peculiarly adapted to meet the needs of overseas markets. Satisfactory quality will be ensured by the National Electric Proving House, which is about to be established in Great Britain. The proving house will put the hallmark of good design, material and workmanship on every class of electrical apparatus, thus giving British productions the full benefit of the high reputation they have always held.

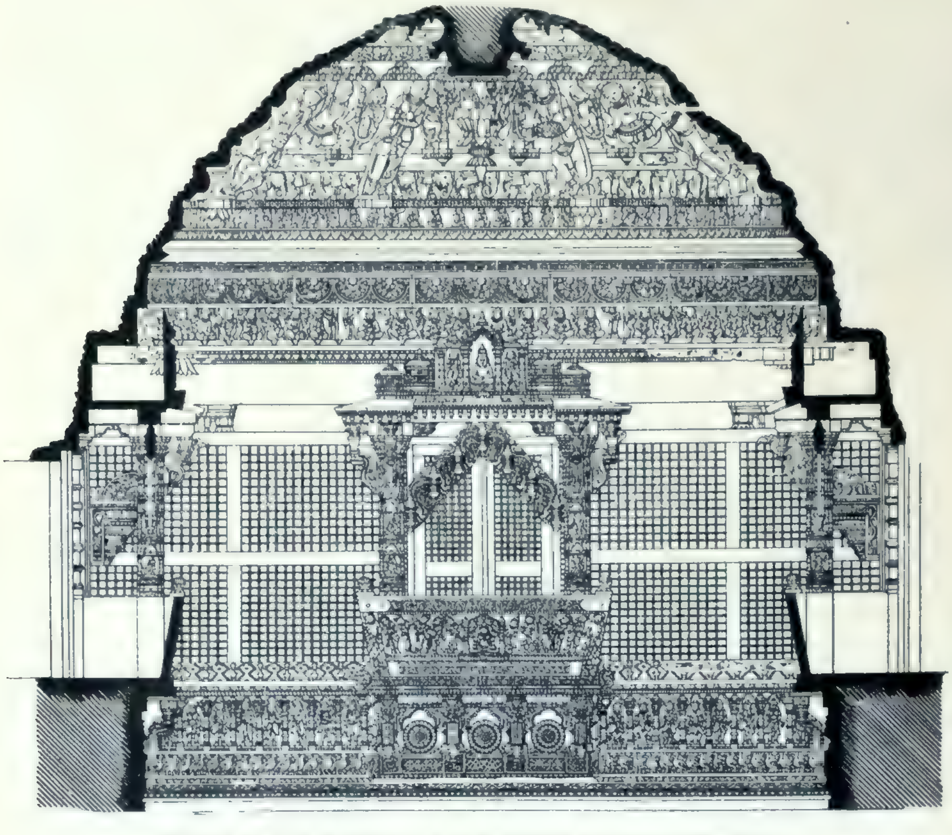
Bigger Than Ever

A larger hotel than the new Pennsylvania recently completed in New York, which now hold the record as to size, is shortly to be built at Atlantic City. It will contain twenty-four hundred sleeping rooms and twenty-four hundred baths, and will occupy three blocks of beach frontage at Albany Avenue, Chelsea. A swimming pool as well as other novelties will be incorporated in the design.

MEZZANINE.

Woodwork from Temple of Vadi Parsvanatha

The woodwork of a room (mandapa) from a Jaina temple now in the galleries of Indian art of the Metropolitan Museum of Art, New York City, is described in a bulletin recently issued by the Museum authorities. The information is taken mainly from the Architectural Survey of Western India, Volume IX, 1903, which is the work of two distinguished archæologists, James Burgess and Henry Cousens. This volume deals with the architectural antiquities of Northern Gujurat, more especially of the districts included in the State of Baroda, and contains a number of drawings and photographs prepared under the supervision of Mr. Cousens in 1886-'87 and 1889-'90. On pages 49-51 of the Survey is found an account of the woodwork referred to, and a translation of a long inscription in the temple which affords definite information as to the date of the temple, the name of the founder, a list of Jaina pontiffs, etc. Plates XX and XXI reproduced herewith are carefully detailed drawings; one showing a section of the mandapa and the other a plan of the ceiling.



SECTION OF THE MAUDAPA IN THE TEMPLE OF VADI PARSVANATHA.

The woodwork in the Museum is identical with that published by Burgess and Cousens, and the correctness of the present installation is established by these drawings made before the woodwork had been removed from the temple. It should be mentioned, however, that in the reconstruction, grille work has been substituted in the upper part of the walls for an iron grating or cage shown in the photograph. The purpose of this grating was to enclose the dome against bats and swallows. The modern grille work forming the lower part of the walls, as the woodwork is now set up in the Museum, serves a decorative purpose, but does not follow the original construction of the mandapa. Unfortunately, neither the drawings nor the photograph show the structure below the frieze nor give the ground plan of the temple; but presumably the superstructure was borne upon columns, thus permitting access to the shrine and other halls.

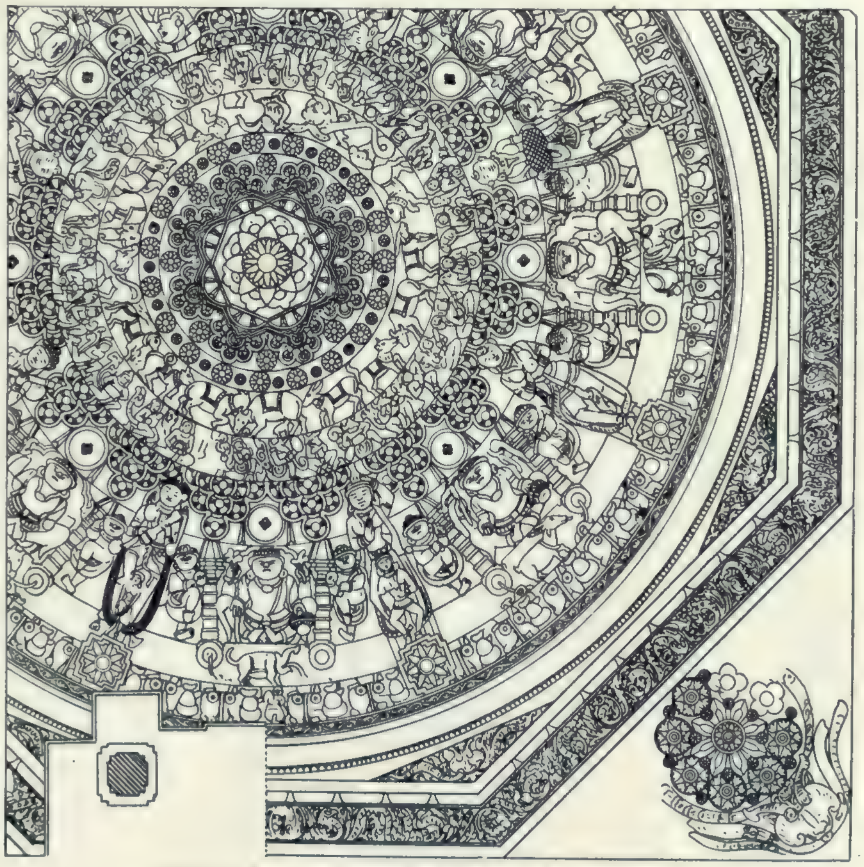
The town of Patan, whence comes the woodwork, lies on the left bank or south side of the Sarasvata River in the flat, sandy plain of Northern Gujarat, about sixty-six miles northwest of Ahmadabad, in the State of Baroda. Patan, also known as Anahilavada, Anahillapura, etc., is one of the oldest and most renowned cities of Gujarat, and a centre of Jain culture. The temple of Vadi Parsvanatha, located on Jhaveri Street, was built between 1594 and 1596. A marble slab built into the wall of the principal mandapa of the temple bears a long inscription from which we learn that the temple was dedicated to the Jina Parsva of Vadipura; that its construction was begun on November 11, 1594, and the image dedicated on May 13, 1596; that the temple was founded by Ratnakumyaraji of the Osval clan, with his sister (?) and daughter as cofounders, on the advice of the Jaina pontiff Jinchandrasuri VI, entitled by the Emperor Akbar "the most virtuous, glorious pontiff of the age."

The Jina Parsvanatha, to whom the temple is dedicated, is the twenty-third in order of succession if the twenty-four Tirthakaras or perfected saints worshipped by the Jainas. Jainism, a religion still influential in India, is of contemporary origin with Buddhism (VI century B.C.), and was founded, according to tradition, by Mahavira, the twenty-fourth Tirthakara or

Finder of the Ford through the Ocean of Rebirth.

In the carving of the ceiling may be noted eight seated male figures, each with two attendants. These are the eight regents of the points of the compass, each with his vahana or conveyance represented beneath his throne. Originally, eight large bracket figures, now missing, of musicians and dancers, separated the regents. A lotus-shaped pendant and concentric circles with figures and bands of ornament complete the sculpture of the dome. The decorative carvings of the spandrels are particularly fine. Gaja Lakshmi and other deities, dancing figures, musicians, etc., are represented on the elaborately carved balconies. In the frieze below are musicians and dancers and various ornamental carvings.

Dr. Burgess remarks that ''all the carving, designs and figures are precisely the same as are found in stone. But with the Hindu workman, whatever was practicable in stone seems to have been regarded as equally so in wood, and vice versa.'' Certainly these carvings give ample evidence of great technical skill and feeling for design. So bountiful is the enrichment of surfaces, so numerous the decorative motives, that the visitor's first impression is apt to be one of bewilderment, but more prolonged observation is surely rewarded by the discovery of beauties of line and form which are to-day, as centuries ago, a source of unfailing delight to those who possess the ''seeing eye.''



DETAIL OF CEILING, TEMPLE OF THE VADI PARSVANATHA.

French Ask Art Works For Those Ruined

As reparation for the works of art destroyed in France by the Germans, it is suggested by the French Academy of Fine Arts, according to the ''Journal des Debats,'' that works of French genius now in the collections of the former royal families in the public museums of Germany and Austria be put at the disposal of the French state, which will select some of these works as a legitimate indemnity. The petition sent by the academy to the Government reads:

''The public monuments of twenty cities, cathedrals, museums, libraries and a large number of small churches known as the most precious among the churches of France have been mutilated and destroyed with the works of art they contained. In order to make up in a small measure for the loss of the home of the French works which composed our national art treasure destined to serve for the education of future generations, we do not demand that the museums of Germany and Austria be plundered, but only that the works due to French genius which are now in the collection of the former royal families and in the public museums in Germany and Austria be put at the disposal of the French state to let it select some works of art as a legitimate indemnity. The same can be said regarding the ravishing of the art patrimony of Belgium. Could pecuniary indemnities be considered sufficient to make up for the destruction of Louvain and Ypres? Belgium should be allowed to select a certain amount of Flemish works of art from the collections of the states which destroyed them on the same conditions as we demand for France.

''The destruction carried out in Italy which affected some precious works of Venetian art must also be compensated for, as justice demands, by the handing over of some Italian works of art now in possession of the enemy.

''In short, the signers of the petition demand that the following principle be written in the peace terms:

''That the diminution brought to the art treasures of the attacked nations be compensated for by the handing over of the works of art of the countries which have carried out the destructions.''

Competition for War Memorial at Regina

In view of the unsatisfactory conditions which have characterized so many architectural competitions, we heartily commend to the attention of our readers the model programme published herewith for the proposed War Memorial Museum to be erected at Regina for the Saskatchewan Government. The terms are, indeed, such as to assure the promoters the best possible result and to preclude any cause for complaint on the part of the contestants. There is no seeking of gratuitous service and nothing indefinite to leave one in doubt as to the final outcome. In the first place, the conditions are in full conformity with governing principles approved by the architectural fraternity in that qualified architectural assessors have been appointed to draft the terms and judge the designs. In the second place, the contest is restricted by invitation to eight competitors, each of whom will be recompensed at least in part for the expense he must meet in presenting his design, which is only fair and as it should be, and something which can only be done when the participants are limited in number. In the third place, it provides that no competitor shall submit more than one design and that alternative schemes are not to be considered. Besides this, it is expressly stated that the winning architect's design must not involve a building to cost more than the estimate submitted, independent of such changes as may be suggested by the assessors. Under circumstances such as these architects will not only show a disposition to compete, but will find an incentive to awaken their very best efforts. There is no opportunity for a "double chance" such as an alternative scheme gives; no possibility for a competitor to win who does not comply with the conditions or come within the appropriation. The terms are eminently satisfactory and in every way safeguard the interests of all parties. The Saskatchewan Government will not only benefit as a result of entrusting this work to competent architectural direction, but it establishes a principle of fairness on which future competitions in Canada can be profitably based if promoters are desirous of obtaining successfully planned and artistic buildings.—*Ed.*

Conditions of Competition for the Selection of an Architect for the Proposed War Memorial Museum at Regina, Saskatchewan.

A—TERMS OF THE COMPETITION.

1. The Government of the Province of Saskatchewan promotes this competition and is hereafter referred to as "The Promoters."

2. The Competition is restricted to those invited by the Promoters to take part.

3. The prize in this Competition shall be the commission of the design and the supervision of the erection of the proposed building, at such time as it shall be proceeded with, on the usual terms and as herein set forth. One thousand dollars ($1,000) shall be paid to the winner within fifteen (15) days of the announcement of the award, this sum being merged in the amount of the Commission when the work goes on.

4. The unsuccessful competitors shall receive an honorarium of one thousand dollars ($1,000) each towards their expenses in the presentation of their designs within fifteen (15) days of the announcement of the award.

5. The Assessors shall be: Septimus Warwick, F.R.I.B.A., Architect, Montreal; Ramsay Traquair, A.R.I.B.A., Professor of Architecture, McGill University, Montreal.

The award of the Assessors shall be accepted by the Promoters provided that they are not required to accept a design which fails to meet the spirit of the conditions as set forth herein.

6. The Promoters reserve the right to appoint a third professional assessor.

In the event of failure by the Assessors herein named to agree upon an award the Promoters shall nominate a third Assessor.

7. The Assessors are responsible for the preparation of the conditions as herein set forth, and in reporting their award, shall make such recommendations to the Promoters as to changes in the winning scheme as their study of the problem may suggest.

The Assessors shall not be employed professionally by the Promoters in connection with this undertaking subsequent to the award.

8. The named Assessors shall come to a decision within twenty-one (21) days of the date for sending in drawings; and all drawings shall be exhibited marked with the names of the authors at Regina for two (2) weeks as soon as possible after the award.

9. All drawings and notes shall be returned by the Promoters to the competitors immediately on the close of the exhibition.

10. The invited competitors are: Messrs. Brown and Vallance, Montreal; Mr. Emil Delay, Regina; Messrs. E. and W. S. Maxwell, Montreal; Messrs. Nobbs and Hyde, Montreal; Mr. J. H. G. Russell, Winnipeg; Messrs. Storey and Von Egmond, Regina; Mr. R. G. Bunyard, Moose Jaw; Mr. David Webster, Saskatoon.

11. No competitor shall submit more than one scheme. No alternative arrangements are to be shown.

12. The submission of drawings under these conditions shall signify the acceptance of all the conditions herein set forth.

B—THE ARCHITECT FOR THE WORK.

1. The Architect, who shall be awarded the work, shall, if requested, revise his design and make such changes as may be necessary to meet the views of the Promoters, and shall advise the Promoters as to any additional cost involved by such changes.

If, upon tenders being received, it is found that, independently of such changes, the cost of the proposed building will exceed the Architect's estimate, furnished at the time of the competition, to such an extent that the alterations necessary to bring it within the limits of this estimate render it no longer acceptable to the Promoters, the plans may be rejected, in which case the author shall receive no other remuneration than the honorarium stated in A3 of these conditions, and the Assessors shall be called upon to name a successor.

2. After the plans have finally been accepted by the Promoters, the Architect shall prepare working drawings and specifications and shall supervise the work during the construction of the building. Subject to the approval of the Minister of Public Works he shall have control of all matters of arrangement, design and execution.

3. All drawings and specifications, as instruments of service, are to remain the property of the Architect, except the signed contract drawings and signed specifications and one (1) record copy on tracing linen of the plans, elevations and sections, to a scale of eight feet to the inch, to be furnished to the Promoters when the works are completed, together with a set of specifications amended to correspond with the works as carried out. The Promoters hereby bind themselves not to utilize the said drawings otherwise than as records of executed works.

4. The Architect shall, if required, provide a resident responsible representative whose appointment shall be approved by the Minister of Public Works and whose duty it shall be to superintend the conduct of the works and who shall have full powers to deal with the Promoters and the contractors on the Architect's behalf.

5. The successful competitor shall be required to visit the site and to meet the Promoters immediately on the announcement of the award.

6. For all these and for all other services as are usual or incident and necessary thereto, the Architect shall receive the customary commission of 5 per cent. on the estimated cost of the works as accepted in the tenders, (exclusive of the cost of the engineering works hereafter described), plus 5 per cent. on the cost of any extras subsequently suggested by the Promoters, but exclusive of extras due to omissions or errors on the part of the Architect.

7. The Promoters shall provide and pay a clerk of works and bear the cost of his office expenses. The appointment of such clerk of works shall be made with the approval of the Architect, who shall regulate his duties and shall have power to order his discharge for cause.

8. The Minister of Public Works shall at all times have access to the works and to all records and documents appertaining thereto.

9. The Promoters shall have the option:

(*a*) of obtaining tenders in the usual way through the Architect;

(*b*) of obtaining tenders themselves on the Architect's drawings and specifications;

(*c*) of letting the work on a "time and material plus fixed sum" basis;

(*d*) of carrying out the work directly under the Department of Public Works.

In cases C or D the Architect shall not be held responsible for the cost of the work under clauses B1, B6 and B7, and shall be furnished with full particulars of the expenditure.

10. The furnishings and fittings for the building will not necessarily be placed in the hands of the Architect.

11. The Architect will appoint a heating and ventilating engineer, with the approval of the Promoters, to install the power, heating, ventilating, illuminating and other appliances and he shall be paid directly by the Promoters. The Architect shall consult with such engineer on the general lay-out of the equipment, on the construction of ducts, foundations and all other matters which require to be incorporated in the Architect's drawings and specifications and shall receive 2½ per cent. commission on the cost of all the contracts for the aforementioned engineering works. The engineer will call for tenders and will be solely responsible for the heating system and for the mechanical apparatus installed by him.

C—PREPARATION AND DELIVERY OF DRAWINGS AND DOCUMENTS.

1. The drawings required are, to the scales mentioned:

(*a*) a block plan of the site to a small scale;

(*b*) plans of all floors including basement and roof, to 16 feet to the inch;

(*c*) elevations to illustrate the facades of the building to 16 feet to the inch;

(*d*) sufficient sections to illustrate clearly the scheme proposed to 16 feet to the inch;

(*e*) one detail of a small part of the exterior to two feet to the inch.

No perspective drawing is required and no drawings, other than those required, are to be submitted.

2. Drawings shall be on white paper mounted on calico, delivered flat in a plain portfolio. Each competitor's set of drawings is to be on sheets of uniform size, with moderate margin without borders of any kind. Two or more elevations, plans or sections may be placed on each sheet, if desired.

Drawings shall be rendered in India ink or lead pencil, the sectional parts blacked in solid, the openings and shadows washed in with lampblack. Light washes of India ink may be used if desired to indicate planes or wall textures but no color shall be used. No ornamental features such as cornices or floor patterns are to be shown on the floor plans but the position of permanent fixtures may be shown.

All printing shall be in plain, legible block type.

All rooms shall be figured both for floor area and dimensions.

3. Competitors shall submit, along with their drawings, a brief typewritten, unsigned description of the main arrangements and characteristics of their schemes, together with a guaranteed statement of the total cubic contents, notes of the relative value per cube foot of the different portions of the scheme, and an estimate of cost of the proposed works.

In estimating the cubical contents the measurements shall be taken from the outside of the walls and additions shall be made for all projections. The height shall be measured from the bottom of the foundations to the top of flats and to the mean height of pitched roofs, additions being made for the extra height of any portion.

The Promoters consider that at the present time a suitable building can be erected at a cost of 80 cents per cube foot, including engineering.

4. The drawings must have no device or mark of any kind nor any handwriting or other means of identification. With each set of drawings is to be enclosed a blank sealed envelope, addressed in typewriting, containing the name of the architect in question, together with a statement that the design and drawings have been prepared entirely in his office under his own supervision.

5. Any infringement of these regulations or disclosure of identity shall be held sufficient ground for the exclusion of drawings from the competition, at the discretion of the Assessors.

6. All questions asked by competitors must be addressed to Ramsay Traquair, Department of Architecture, McGill University, Montreal, by the 5th day of May, 1919, and such answers as the Assessors may give will be sent,

together with the questions asked, to all competitors alike within four days thereafter.

7. All drawings accompanying documents and envelopes shall be delivered to the Deputy Minister of Public Works by *post or express*, labelled with the tag herewith attached, on or before the 7th day of July, 1919, and the packages and envelopes shall be numbered by him, the envelopes to be retained in his possession and opened subsequent to the award and the drawings and notes to be forwarded at once to the Assessors.

D—SITE, CHARACTER OF BUILDING AND COST.

1. The Block plan hereto attached shows the proposed site, which is situated to the south-west of the existing Parliament Buildings. The site is practically level and the surrounding country flat. The existing road to the power house need not be regarded as fixed. The Building will face on to Albert Street, but will be seen principally from the north side as approached from the city.

2. The style of the building is left to the discretion of the competitors. It should be such as to harmonize with the Parliament Building, a photograph of which, from the north, is hereto attached.

3. The primary purpose of the building is that of a Memorial to the Men of Saskatchewan who fell in the great war and of the part taken by the Province in that struggle.

The secondary purpose is to contain the

(*a*) collection of war trophies and records of the Province;

(*b*) natural history and scientific collections of the Province.

The Promoters desire to obtain a building which will express these ideas and will fulfil the purpose of a Museum.

Competitors are reminded that elaborate architectural detail is unsuited to the interior of the museum, whose object is to display the exhibits to the best advantage.

4. *Construction.*

(*a*) The foundations will probably be at a depth of about 12 feet in stiff heavy soil;

(*b*) the construction shall be fireproof throughout and woodwork in the finishings shall be reduced to a minimum;

(*c*) competitors will prepare designs for a building in Tyndal Limestone, similar to that used in the Parliament Building. This is a creamy white stone with large markings of a slightly darker color;

(*d*) in the roof, parapets with pitches behind them should be avoided. Pitched roofs may be of slate or tile, flashings will be of copper, flats may be in galvanized iron or gravel.

Canadian materials shall be used where possible.

5. Cost. The sum available for the building and the engineering (not including furniture and the Architect's commissions) is $400,000.

(*e*) *Schedule of Accommodation.*

Note—The floor areas for the various rooms or galleries is stated in round numbers. The exact area and division is left to the discretion of the competing architects.

		Floor space
Vestibule with cloak room and room for the exhibition and sale of photographs, etc. *Hall of Honor* with bronze tablets for the names of men who fell in the great war.		2,500
War Relics Museum.		
Large hall		3,500
Small room for records, etc.		700
Provincial Museum.		
Natural History:		
Zoology	1,000	
Ornithology	1,000	
Botany	500	
Mineralogy	500	
Etomology	500	
		3,500
Ethnology and History		1,500
Spare Collections and Stores.		3,000 to 4,000
Repair rooms, work rooms, etc.		1,000
Curator's office:		
Private room General office Lavatory		1,000

Public lavatories for both sexes.

Stairs as required.

A large elevator capable of taking large cases or exhibits.

Note—Caretaker's or Janitor's quarters are not required. Provision is to be made for a statuary group in front of the building. The cost of this is not to be included.

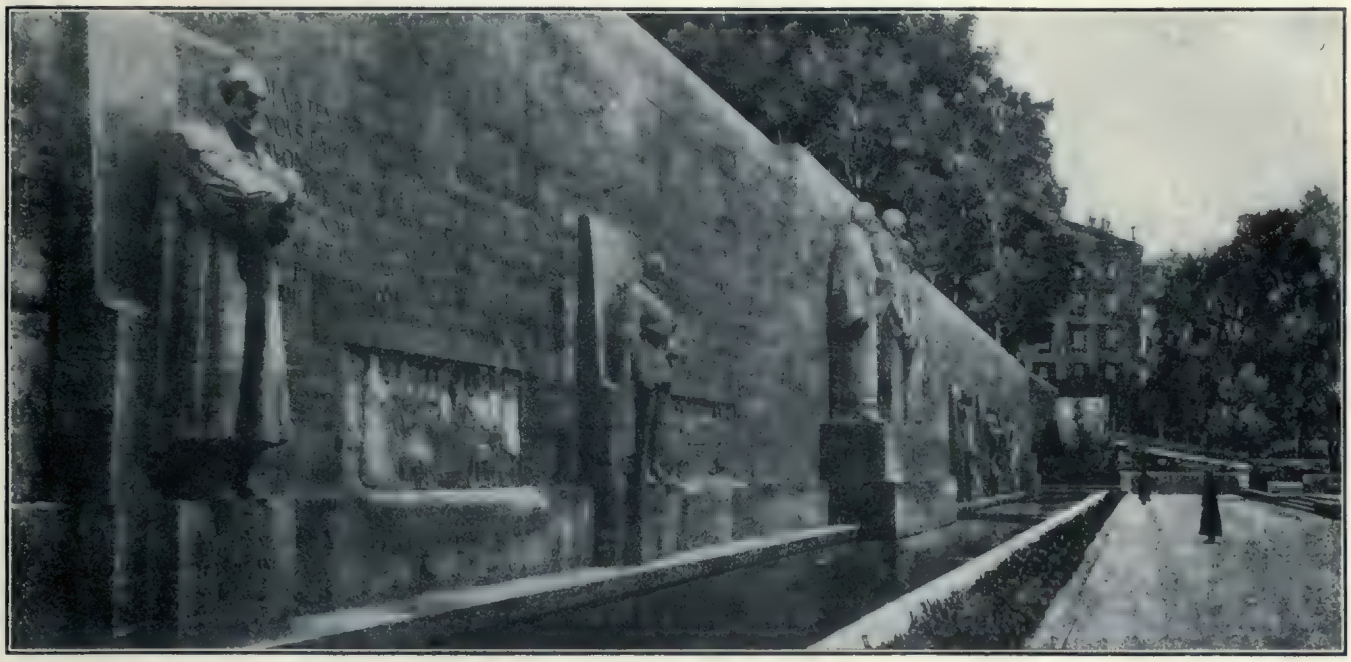
The importance and interest of the building must centre in the Hall of Honor and the War Relics Museum. The Promoters desire that these shall be a worthy memorial and that other uses of the building shall be subordinated to its purpose as a Commemoration of the Men of Saskatchewan who fell in the Great War.

Issued Regina, April 7, 1919.

◆

Reforestation Essential

Discussing the subject of reforestration, F. E. Olmstead says it is sometimes argued that we do not need to concern ourelves about the forests of the future, because the forests we now have will last us for 50 or 100 years, or even longer; that it is futile to worry about the matter, so long as we have wood. Of course, it is possible to estimate the length of time our present supply of timber will hold out, assuming certain fixed domestic and foreign demands (demands, incidentally, which are by no means fixed). This question has no direct bearing on the problem of keeping forest lands productive. Let us suppose, for example, that under certain estimated demands our present forests will last us for a hundred years. That is no reason at all why we should allow cut-over lands to become wastes or near-wastes. In the first place, it takes a hundred years, let us say, for a seedling to grow into a respectable tree, fit for the saw. The trees we are now cutting are, on the average, much older. The time to start our new forests, therefore, is now—not a hundred years from now—for otherwise we should have a long period during which we should be without adequate supplies of timber. In the second place, those who argue that no present action is necessary overlook one of the most vital facts in the whole forest problem, namely, that the destruction of forests in any one locality, district, or region has a distinctly adverse influence on the prosperity of the country as a whole. The forest problem is essentially a local problem.



MEMORIAL SCULPTURES AT GENEVA, SWITZERLAND, SHOWING THE CHIEF FIGURES AND EVENTS OF THE SPIRITUAL AND POLITICAL RENAISSANCE.

History of the Reformation Written in Stone

At the foot of the old ramparts of 1543, in the city of Geneva, Switzerland, and within sight of Mont Blanc, there has just been completed what William Elliott Griffis, in the New York Times, describes as the noblest of all the memorials of the Reformtion yet upreared. In the form of a series of mural sculptures, it stretches along the Promenade de les Bastions, fronting one of Geneva's famous parks.

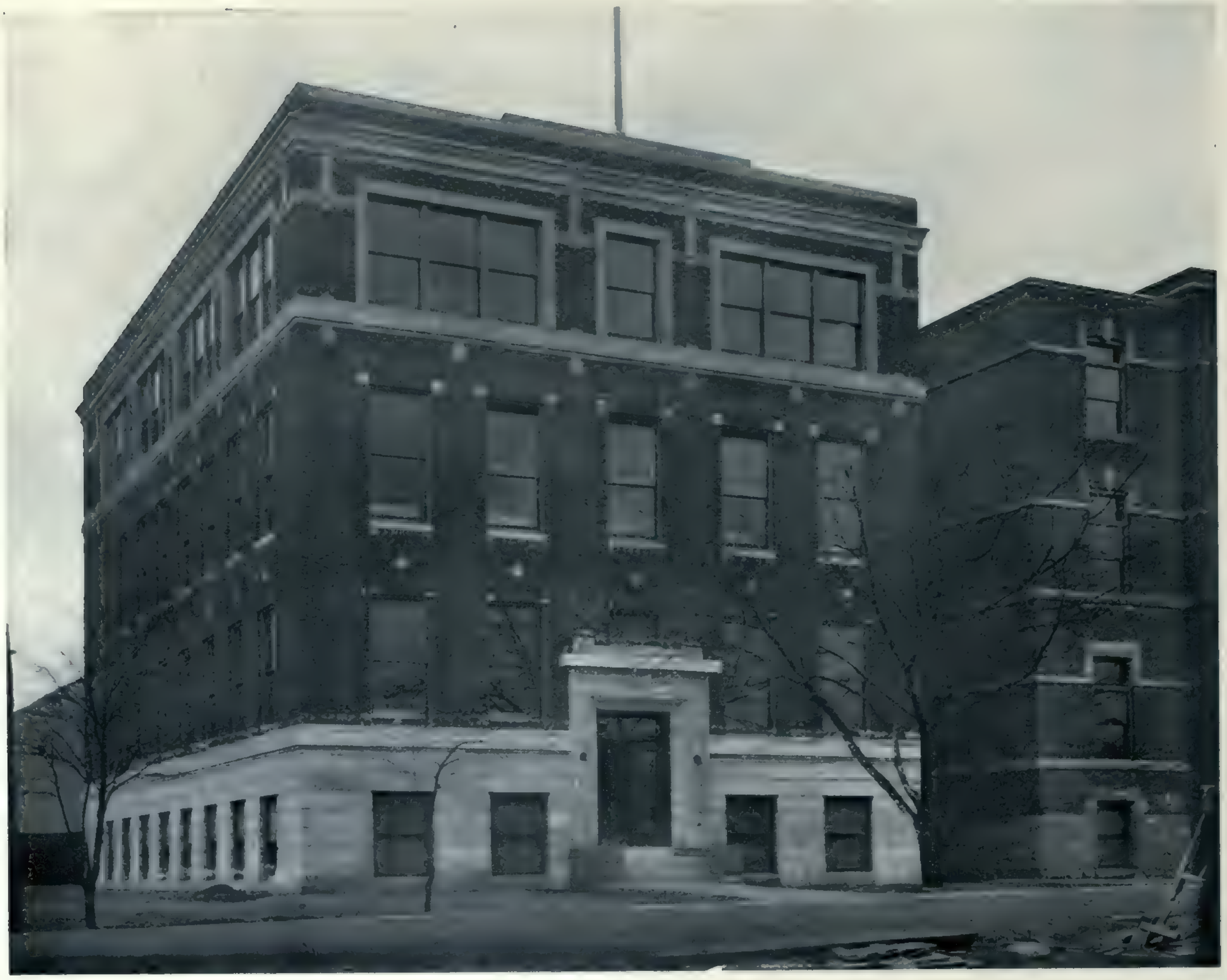
In itself it is a book of history in stone. It portrays, in figures of heroic size, the leading personages and the chief events of that mighty movement of the human mind out of which grew the public school system, modern democracy, and the age of science. The new memorial is therefore not merely of local interest or import. It is of international significance, because it shows the influence and outworking, in many countries, of the recovery, in the sixteenth century, of ancient truths. Following the spirit of conciliation characteristic of the Genevans, all subjects of a polemic or controversial nature have been avoided, all disputes, conflicts, battles and persecutions. The emphasis is laid on actual history and upon memorable facts, upon the growth of religious peace and of social progress and of freedom of conscience.

In the central group stand Farel, Calvin, Beze, and Knox. The first was a popular orator and man of action. He taught ethics, but cared little for dogma; the second gave logical precision to the Reformation doctrines and laid the foundations of modern democracy, in teaching that all men are equal before God and that human salvation rests on a divine purpose of love older than Kings, thrones, or earthly institutions; Beze, the scholar and translator, carried on Calvin's work; John Knox, father of the public schools, transformed feudal Scotland into a church republic.

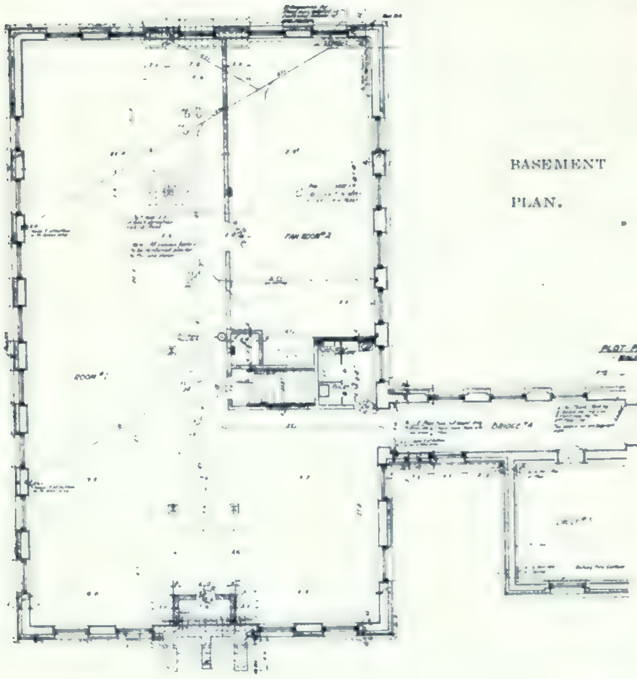
Flanking these gowned and capped men of the pen, who were builders of the Church, are the makers of governments—Coligny, William the Silent, Oliver Cromwell, Bocskay of Transylvania, the Elector, Frederick William of Brandenburg, and Roger Williams. The historical bas-reliefs, which are spirited and artistic, represent the scenes associated with modern liberty, in which the men commemorated in statues were actors, and in the elucidation of which they were exemplars.

With each of these is a notable text or representation in bas-relief. These are, on the right, the Edict of Nantes, in France; the Declaration of Independence by the United States; of the Netherlands forming the Dutch Republic, in 1851; the Great Elector, in 1685, offering refuge to the Huguenot refugees; and the unpictured stone, in commemoration of the Reformation in Geneva, in 1536. On the left are the Mayflower Compact, in 1620; the Declaration of Rights in England, in 1689; the Hungarian Diet of 1606, receiving notice of the Peace of Vienna, which granted religious liberty in the realm. A smaller inscribed stone tells of the deliverance of Geneva in 1606.

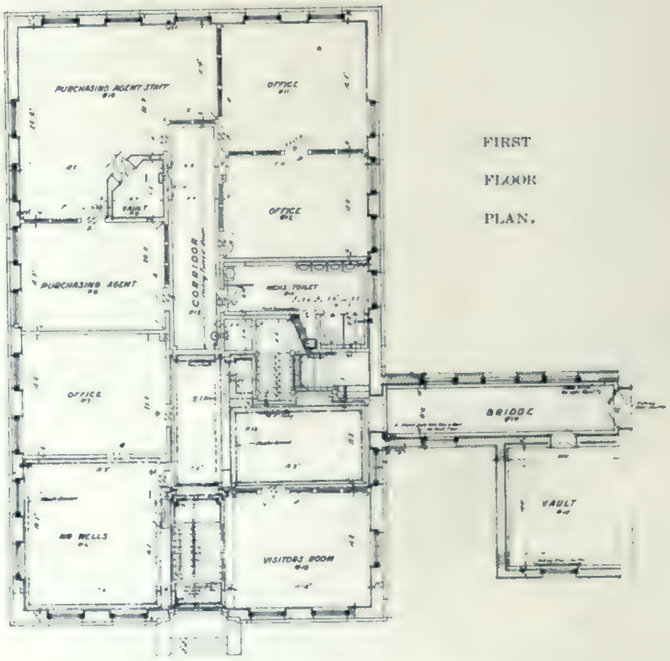
The work, artistically, is the result of the zealous co-operation of Swiss and French artists, sculptors and architects, and the total cost approaches $200,000, of which the city of Geneva contributed one-half.



EXTERIOR VIEW.



BASEMENT PLAN.



FIRST FLOOR PLAN.

NEW OFFICE BUILDING, STEEL COMPANY OF CANADA, HAMILTON, ONT.

Bernard H. Prack, Architect.

Steel Company of Canada's Offices

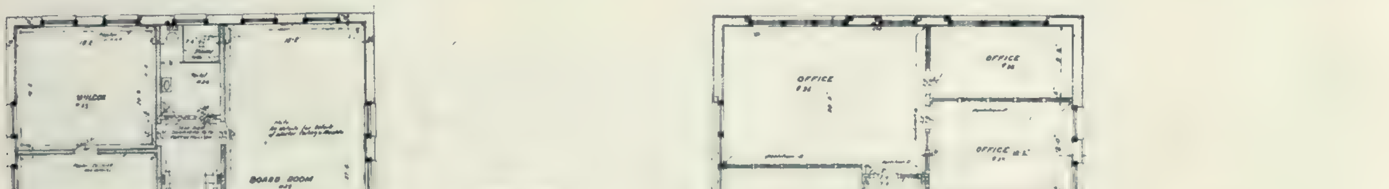
INCREASING staff requirements have made it necessary for the Steel Company of Canada to provide additional accommodations for its executive and clerical staff. As a result a new office building has just been completed adjoining the company's large industrial plant at Hamilton, which is practically planned for this purpose and which gives the office force very desirable quarters in which to carry on its work.

CORRIDORS AND STAIRS, STEEL COMPANY OF CANADA'S OFFICE BUILDING, HAMILTON, ONT.

This new building is three stories and basement, 47 x 77 ft., and of brick, steel and hollow tile construction. The exterior walls are surfaced with rug brick laid to pattern and backed with common brick furred and plastered on the interior. The corridors and toilet rooms have terrazzo floors with marble cove and base. In the general offices the floors are covered with battleship linoleum over a cement finish, and in the executive offices the sub floors are of pine with oak floors laid on top. All the plastering throughout is of three coat work, the executive offices and Board room being finished with cornices, mouldings and ornament of neat design. In these offices the walls are panelled in oak to the chair rails, and in the President's office is carried full height to the ceiling.

While a complete structure in itself, the new building is connected to the old offices by enclosed corridors. This connection extends through on all floors, making it unnecessary to go to the outside in passing from one part of the premises to the other.

Especial care has been given to the matter of heating and mechanical equipment. One-third direct radiation is derived from a tempered air ventilation system consisting of multiblade fan, air washer, tempering and re-heating stacks. In the summer time this equipment will be used to change the air in all offices every twenty minutes, giving a fresh supply of washed air at such intervals.



STEEL COMPANY OF CANADA'S OFFICE BUILDING, HAMILTON, ONT.

In addition, the building contains a modern and up-to-date lighting equipment. It is also wired for adding machines, fan outlets and a complete bell system, besides having dictaphone outlets in all offices as well as a complete inter-communicating system.

BOARD ROOM, STEEL COMPANY OF CANADA'S OFFICE BUILDING, HAMILTON, ONT.

◆

Clay Interests to Meet

The programme for this year's convention of the Canadian National Clay Products Association, to be held in Montreal May 26-27, provides for a number of technical and trade subjects which promise an interesting and profitable three days' session.

Mr. W. W. Pearse, City Architect, Toronto, will discuss "Brick Tests and Investigations," and Mr. Millard F. Gibson, General Manager of the National Fireproof Company, the "Transportation of Clay Products." Other papers to be presented are: "Why Freight Rates Are as They Are and How Made," by James E. Walsh, General Manager of the Canadian Manufacturers' Association; "Use of Firebrick in the Steel and Clay Products Business"; "Sewer Pipe Investigations," by A. G. Dalzell; "Firing of Clay Products in the Dressler Continuous Muffle Kiln," by Conrod Dressler, of the American Dressler Tunnel Kilns Co., New York; "Steam Shovel Comparisons," by Wm. Burgess, Superintendent of the Don Valley Brick Works, Todmorden; "Motor Trucks in the Clay Products Business," by Charles Harrison and Horace Harpham; "The Burning of Carbonaceous Clays," by Joseph Keele, Chief Engineer of the Ceramic Department, Mines Branch, Ottawa; "Machinery and Dryers for Large Size Tile," by L. Haigh, American Clay Machinery Co.

In addition to the foregoing, the reports of the Tile Committee and the Committee on Technical Education will be presented to the convention.

◆

Florence, Italy, has just taken the sandbags away from the bronze statue Perseus, with the head of Medusa, executed by Benvenuto Cellini in 1445. It had been covered to protect it from German air raiders, along with other priceless statuary. Benvenuto's Perseus is a marvel of detail, but even more famous is his story, told in his biography of how it was cast. It made that very intimate recital a classic.

ENTRANCE TO PLANT, STEEL COMPANY OF CANADA.

CONSTRUCTION

A · JOURNAL · FOR · THE ARCHITECTURAL
ENGINEERING · AND · CONTRACTING
INTERESTS · OF · CANADA

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ADVERTISEMENTS.—Changes of, or new advertisements must reach the Head Office not later than the twentieth of the month preceding publication to ensure insertion. Mailing date is on the tenth of each month. Advertising rates on application.

CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

Entered as Second Class Matter in the Post Office at Toronto, Canada.

WESTON WRIGLEY, Business Manager
FRED. T. HOLLIDAY, Advertising Representative

Vol. XII Toronto, May, 1919 No. 5

The Question of Advertising

The fact that one or two prominent New York architectural firms have recently made use of large newspaper space, along with the additional fact that a full page architectural advertisement has more recently still appeared in the Toronto papers, indicate that certain members of the profession have decided to give "publicity" a trial. Just how far this tendency will spread is difficult to say, although it might be observed that in the United States where the ban on advertising has been removed by the American Institute, advertising among architects does not as yet exist to any great extent. Two opinions, in fact, recently published by the "American Architect" on this subject are of interest in showing opposite views. One is expressed by Thomas Crane Young, a prominent member of the profession, who states that there has been much complaint from a certain class of architects that the public has not been properly informed as to the character and value of architectural service, asserting that this is no doubt true in part. In his opinion, however, however, the means is at hand by which this ignorance can be dispelled, and holds that if the architectural profession contains within itself the amount of good taste and artistic merit which are a part of its claim for recognition, there need be no fear of a loss of professional dignity through the proper form of advertising. The one requirement that could and should be rigidly enforced, he contends, is that truth and nothing but the truth be contained in any advertising statement. In other words, Mr. Crane does not take a radical stand, but simply approves of architects advertising within certain restrictions.

On the other hand Mr. F. E. Davidson, who discusses the subject in the same issue, of our contemporary with Mr. Crane after careful study of the matter, states that as a financial proposition alone he doubts very much as to whether display advertising by a professional man would yield a sufficient return on the money to justify it. Mr. Davidson amplifies this opinion by the following remarks, which we quote direct.

> "At the present moment it is my thought that the only advertising that any architect should do, in addition, possibly, to signing his building during construction, would be to have his professional card appear in the publications that his particular class of clients read, particularly if he specializes in a certain line of work. I very much doubt the wisdom of an architect attempting anything in the way of display advertising, for I not only believe that such advertising would be in bad taste, but that it should be condemned from every viewpoint as well. . . . If the acquisition of money alone is the only thing to be desired, then the architect should cease to call himself an architect and become a contractor in which line of work, no doubt, it will be necessary to do some display advertising, for the reason that contractors as a class are advertisers and the public expects it of them. For myself I am not practicing architecture expecting to get rich. I am in the game because I love it and know of no other profession that is bigger or embraces so many subjects of interest, or that provides so many opportunities for patriotic and unselfish labors for the general good. . . . I am satisfied with enough financial return to live decently and enjoy some of the luxuries of modern civilization. I believe that such a return is all that any professional man, or for that matter, any man, is entitled to. But I must add that the professional fees commonly paid architects are not in all cases suf-

ficient to secure even this minimum of net financial return."

Undoubtedly the sentiment of the majority of architects in this country are in accord with the later viewpoint. The unfortunate part of it is the fact that the work of the architect is too little known. In other words while the public may admire certain buildings, the beholder too often has little or no knowledge of their authorship. In view of this it might be perfectly legitimate for architects within certain limitations to "let their light shine forth," but we doubt as to whether anything is to be gained by competing with the departmental stores in the use of newspaper space, or of permitting the copy used to contain any questionable or extravagant statement.

◆

The New Price Revolution

Dealing with what is termed the new price revolution, Prof. Irving Fisher, of the Chair of Political Economy, Yale University, in a recent address delivered at Washington, D.C., gave some interesting facts as to the present cost of materials in the various fields of production. To quote from this authority, the main reason why business is not going ahead better is that most people expect prices to drop. The merchant is selling, but not buying. The manufacturer holds up the purchase of his raw materials. People quote the disparity between present prices and those prevailing "before the war," and decide they will not buy much until present prices get down to "normal." This general conviction that prices are sure to drop is putting a brake upon the entire machinery of production and distribution. Readjustment waits because we keep on waiting for it. We have waited in vain for over three months. It is interesting to observe that many manufacturers think that prices must come down, including the price of labor; but they are ready to demonstrate to you that their own prices cannot come down, nor can they pay lower wages. Almost everything they buy somehow costs twice as much as before the war, and their labor is twice as dear. They cannot pay their labor less if labor is to meet the increased cost of living. Now, as a matter of fact, when we investigate almost any individual one of the so-called high prices for industrial products, we are likely to find that individually it is not high; that is, it is not high relatively to the rest. Our quarrel is with the general level of prices.

Variations in the general price level may be compared to the tides of the sea, while individual prices may be compared to waves. Individual prices may vary from this general level of prices for specific reasons peculiar to individual industries, just as the height and depth of waves vary from the general level established by the tide. The causes controlling the general price level are as distinct from those controlling individual prices as the causes controlling the tides are distinct from those controlling individual waves.

All prices have risen, but some have risen more, some less, than the average for particular reasons affecting each industry. In some cases an improved organization of both employers and employees has enabled them to combine against the public and take full advantage of the price advance. The war brought about an abnormal demand for certain products like copper and steel, and they advanced faster than the average. The abnormal demand having disappeared, these prices are being adjusted downward. Wheat is a case where demand increased and at the same time certain of the usual sources of supply—Russia, Australia and Argentina—disappeared, with a resultant abnormal price increase. The closed sources of supply have opened again, and wheat prices in the world market have dropped. In some cases, as in many of the industries making building materials, the war meant a great slackening in demand, an enforced curtailment in use by Government order. In such instances we are likely to see an upward swing in prices as the suppressed demand again makes itself felt. To-day we are witnessing throughout the country such price readjustments, up and down, but the general price level has shown little sign of falling, as is evidenced by price index numbers. It is apparent to every thoughtful observer that some great force has affected all prices, creating a new standard to which they are all conforming.

The fundamental practical question confronting business men is whether the general level of prices is going to fall. In my opinion, it is not going to fall much, if at all. We are on a *permanently* higher price level, and the sooner the business men of the country take this view and adjust themselves to it the sooner will they save themselves and the nation from the misfortune which will come if we persist in our present false hope.

◆

Toronto Architect Weds in England

A notice has been received from England announcing the marriage at Wesleyan Church, Eccles, Manchester, of Lieutenant John Jackson Beck, R.G.A., to Miss Gertrude E. Chapple, youngest daughter of Mr. and Mrs. Alfred Chapple, of Toronto. The groom, who is a native of Doncaster, England, is well-known to the architectural profession of Toronto, where he was engaged in practice prior to going overseas, after being connected for several

MADE IN CANADA

Barrett Specification Roof on Pointe Aux Trembles Power-House of Montreal Tramways Co. General Contractors: Munn & Shea, Montreal. Roofers: Metal Shingle & Siding Co., Limited, Montreal.

Capital Stock $2,000,000.00 No. 3021

UNITED STATES FIDELITY & GUARANTY COMPANY

BALTIMORE, MD.

Barrett Specification Roof

20 Year Guaranty Bond

This is the Bond that guarantees your roof for 20 years.

Free of Repairs for Twenty Years

WHEN the engineering staff of the Montreal Tramways Co. wrote the specifications for this handsome little power-house, they merely said, as to the roof:

> "The roof shall be laid according to The Barrett Specification dated May 1, 1916, and the roofing contractor shall secure for us the 20-Year Guaranty Bond therein mentioned."

On this fair and precise basis, roofers could bid intelligently.

The Metal Shingle & Siding Co., Limited, of Montreal, was the successful bidder.

When ready to commence work, they notified our Montreal office and we sent our inspector to verify compliance with the specification. He reported "O.K." and we forthwith issued to the owners, without charge, a Barrett 20-Year Guaranty Bond, indorsed by a well-known surety company, guaranteeing the roof free of repairs for twenty years.

The 20-Year Bond is now given on all roofs of fifty squares and over in all towns with a population of 25,000 and over, and *in smaller places where our Inspection Service is available.* Our only requirements are that The Barrett Specification dated May 1, 1916, shall be strictly followed and that the roofing contractor shall be approved by us.

Copies of The Barrett 20-Year Specification, with roofing diagrams, mailed free on request.

The Barrett Company
LIMITED

MONTREAL TORONTO
ST. JOHN, N B.
WINNIPEG VANCOUVER
HALIFAX, N. S. SYDNEY, N. S.

years with Mr. F. S. Baker, F.R.I.B.A., Bank of Hamilton Building. Lieutenant and Mrs. Beck expect to return to Canada shortly.

◆

Builders Extend Organization

The Ottawa Branch of the Association of Canadian Building and Construction Industries came into existence at a meeting of the Capital's contractors and supply dealers in the Chateau Laurier on April 16th. Close to one hundred attended the meeting and great enthusiasm was shown by those present, who were in favor of organizing only as a branch of the Canadian Association. In the past years several associations have been formed by the Ottawa contractors, but interest in the local organizations gradually died out. However, their new formation promises to put the branch on the list of "live wires," and it was the unanimous decision of the contractors at the meeting to get their branch on the active list by starting off with generous subscriptions to carry on the work.

. The following were appointed on the Executive Committee: Hugh J. Graham, Secretary; Sid Smith, V. Hall, W. G. Adamson, Carpenters; A. Garvock, T. C. James, Alex. Robertson, Bricklayers; J. B. Duford, Painters; J. R. Murphy, Plasterers; J. T. Blyth, Plumbers and Steamfitters; J. O'Toole, J. Foley, T. C. Bate, General Contractors; W. A. Mattice, Structural Steel; E. M. Barrett, Lumbermen; Ruggles Wright, Quarrymen; Richard Hooper, Stonecutters; J. R. Douglas, Galvanized Iron and Roofing; J. A. Ellacott, P. Ackroyd, Electricians; A. K. Mills, Marble and Tile; Thomas McLaughlin, Roads and Sewers, and W. Cuzner, Hardware.

◆

CONTRACTORS and SUB-CONTRACTORS

As Supplied by the Architects of Buildings Featured in This Issue.

ALLEN THEATRE, BLOOR STREET, TORONTO.

Brick, Milton Pressed Brick Company.
Concrete Design, Mouchel & Partners.
Furniture, Gendron Manufacturing Company.
General Contractors, Witchall & Sons.
Plaster Ornament, W. J. Hynes, Limited.
Lighting Fixtures, Canadian General Electric Company.
Seating, American Seating Company.
Tile, Italian Mosaic and Tile Company.
Ventilating System, Sheldons, Limited.
Woodwork, Geo. L. Robinson.

QUEEN ALEXANDRA SANATORIUM, BYRON, ONT.

Reception Hospital.
General Contractors, Hyatt Bros.
Sub-contractors, Otis-Fensom Elevator Co.
Tile Work, Italian Mosaic and Marble Co.
Heating and Plumbing, Eggett & Co.
Mill Work, Gerry & Sons.
Metal Work, J. A. Brownlee.
Roofing, Jno. Whittaker.
Reinforcing Steel, Trussed Concrete Steel Co.
Ornamental Iron Work, Dennis Wire & Iron Works Co.
Lockers, Dennis Wire & Iron Works Co.
Hospital Equipment, Scanlan-Morris Co.
Plumbing Fixtures, Imperial Products, Ltd.
Boilers, Spencer Heater Co.
Refrigeration, Canadian Ice Machine Co.
Kitchen Ranges, Canadian General Electric Co.
Other Kitchen Equipment, Geo. Sparrow & Co., Canadian Aluminum Co.
Electrical Work, Public Utilities Commission.
Metal Lath, Trussed Concrete Steel Co.
Hardware, Hobbs Hardware Co.
Conduits, Conduits, Limited.
Vitrolite, Vitrolite Company.
Dining Room Tables, I. G. Pickering.

Nurses' Home.
General Contractors, R. G. Wilson & Son.
Mill Work, Geo. H. Belton & Co.
Metal Lath, Trussed Concrete Steel Co.
Plastering, R. C. Dancy, Toronto.
Plumbing Fixtures, Imperial Products, Ltd.
Electric Wiring, Western Ontario Electric Co.
Heating and Plumbing, Eggett & Co.
Boilers, Spencer Heater Co.
Radiators, Clare Bros., Ltd.
Hardware, Hobbs Hardware Co.
Tile Work, Italian Mosaic and Marble Co.
Conduits, Conduits, Ltd.

Forty-eight Bed Pavilion.
General Contractors, R. G. Wilson & Son.
Heating and Plumbing, Eggett & Co.
Mill Work, Gerry & Son.
Hardware, Hobbs Hardware Co.
Conduits, Orpen Conduit Co.

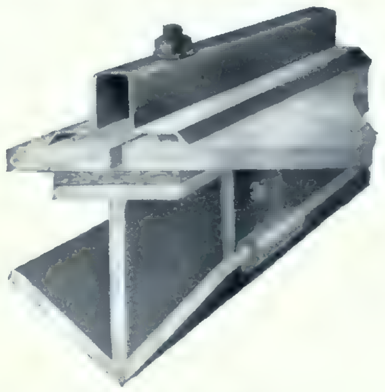
Dairy Barn.
Carpenter Work, R. G. Wilson & Son.
Mason Work, Jno. Hayman & Sons Co., Ltd.
Stable Fittings, Beatty Brothers, Limited.
Wiring, Public Utilities Commission.
Floors, Armstrong Cork and Insulation Co.
Interior Dairy Enamel, Trussed Concrete Steel Co.

Vocational Building.
General Contractors, John Hayman & Sons.
Mill Work, Dyment Baker Co.
Heating and Plumbing, Eggett & Co.
Metal Lath, Trussed Concrete Steel Co.
Hardware, Hobbs Hardware Co.
Plumbing Fixtures, J. L. Mott Company.

Military Pavilions.
General Contractors, S. Willis.
Painting and Glazing, Paul Quick.
Hardware, Hobbs Hardware Co.

STEEL COMPANY OF CANADA'S NEW OFFICE BUILDING.

Hollow Tile, National Fireproofing Co.
Stone Work, Ritchie Cut Stone Company.
Structural Steel, Hamilton Bridge Works Company.
Air Washing System, Canadian Sirocco Company.
Miscelaneous Steel, McGregor & McIntyre, Ltd.
Heating, Adam Clarke.
Electrical Work, Culley & Breay.
Plumbing, Adam Clarke.
Marble, Tile, Terrazzo, Kent-Garvin & Company.
Roofing and Sheet Metal, Thos. Irwin & Son.
Electrical Fixtures, Tallman Brass and Metal Co.
Trim, Partitions and Doors, T. H. Hancock.
Standing Trim, Patterson & Croswaithe.
Hardware, Kent-Garvin & Company.
Glass (Interior and Exterior), Hobbs Mfg. Company.
Electrical Fixtures, McDonald & Willson Co.
Vacuum Cleaning System, United Electric Co.
Brick, Milton Pressed Brick Co.



Section of Bar

Anchor Bar Skylights

are designed for large areas where the bar length exceeds eight feet. The structural parts being of rolled steel and the trim of sheet metal (generally copper) forms a combination which cannot be surpassed, to wit: steel for strength, copper for weather protection.

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Geo. W. Reed & Co. Limited, Montreal

June, 1919 Volume XII, No. 6

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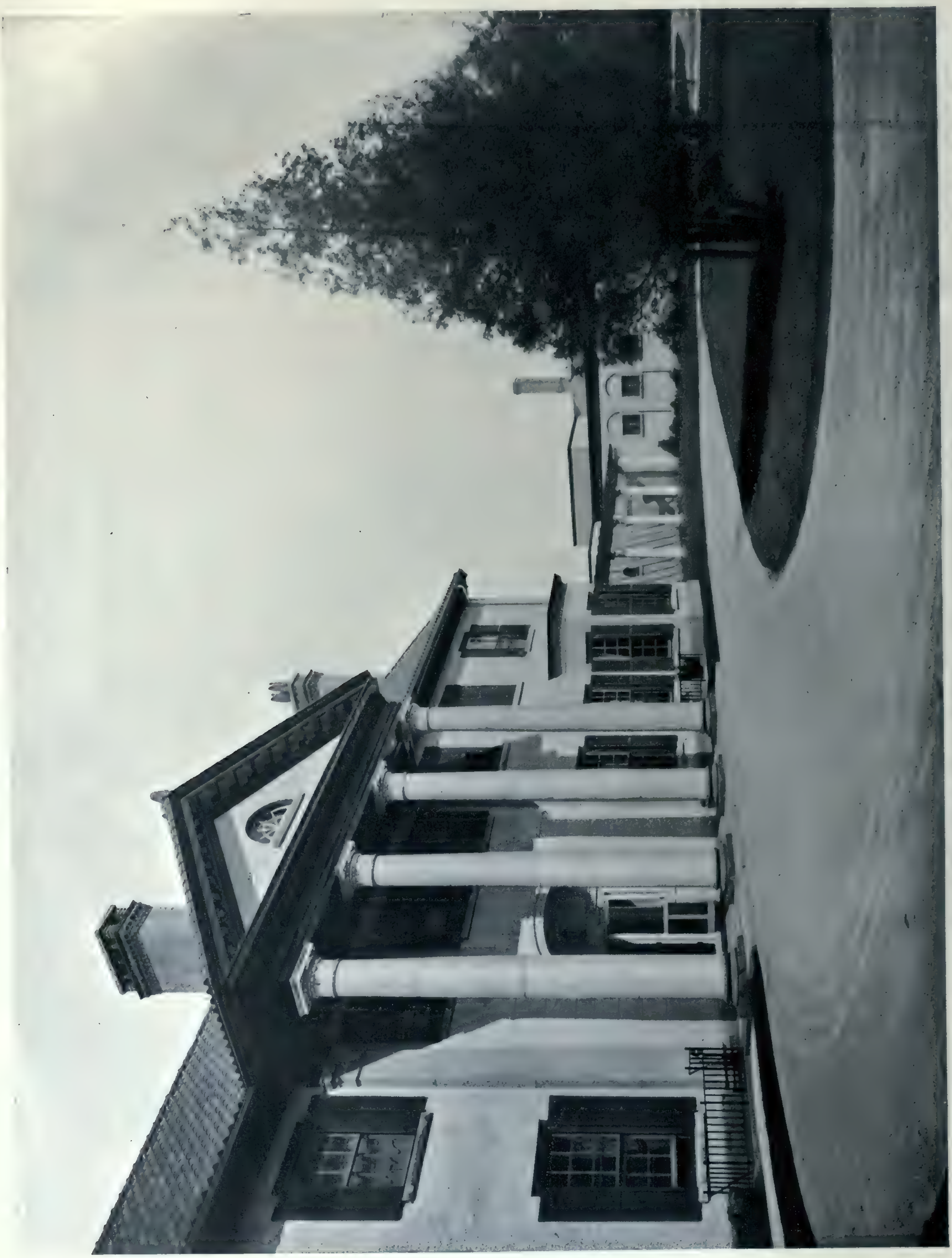
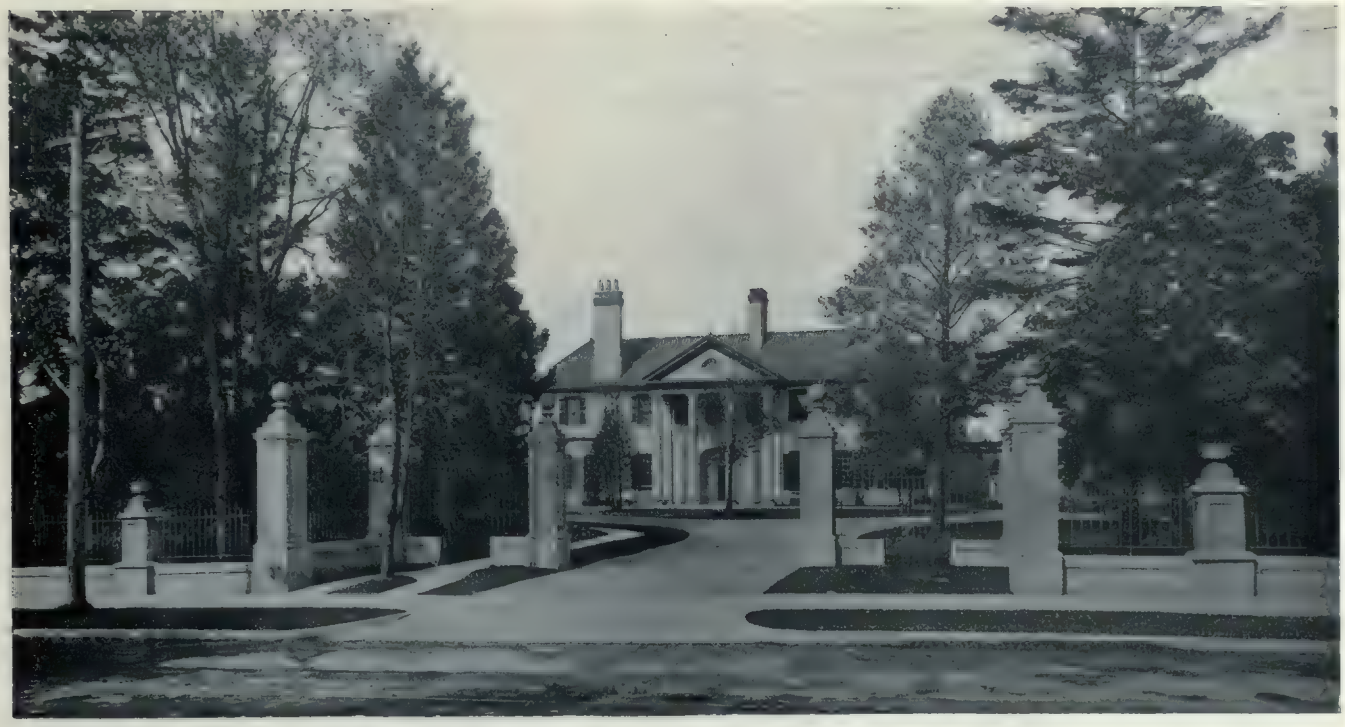
MONTREAL NEW YORK



DETAIL OF ENTRANCE.

RESIDENCE OF R. S. McLAUGHLIN, ESQ., OSHAWA, ONT.

DARLING & PEARSON, ARCHITECTS.



MAIN APPROACH: RESIDENCE OF R. S. McLAUGHLIN, ESQ., OSHAWA, ONT.

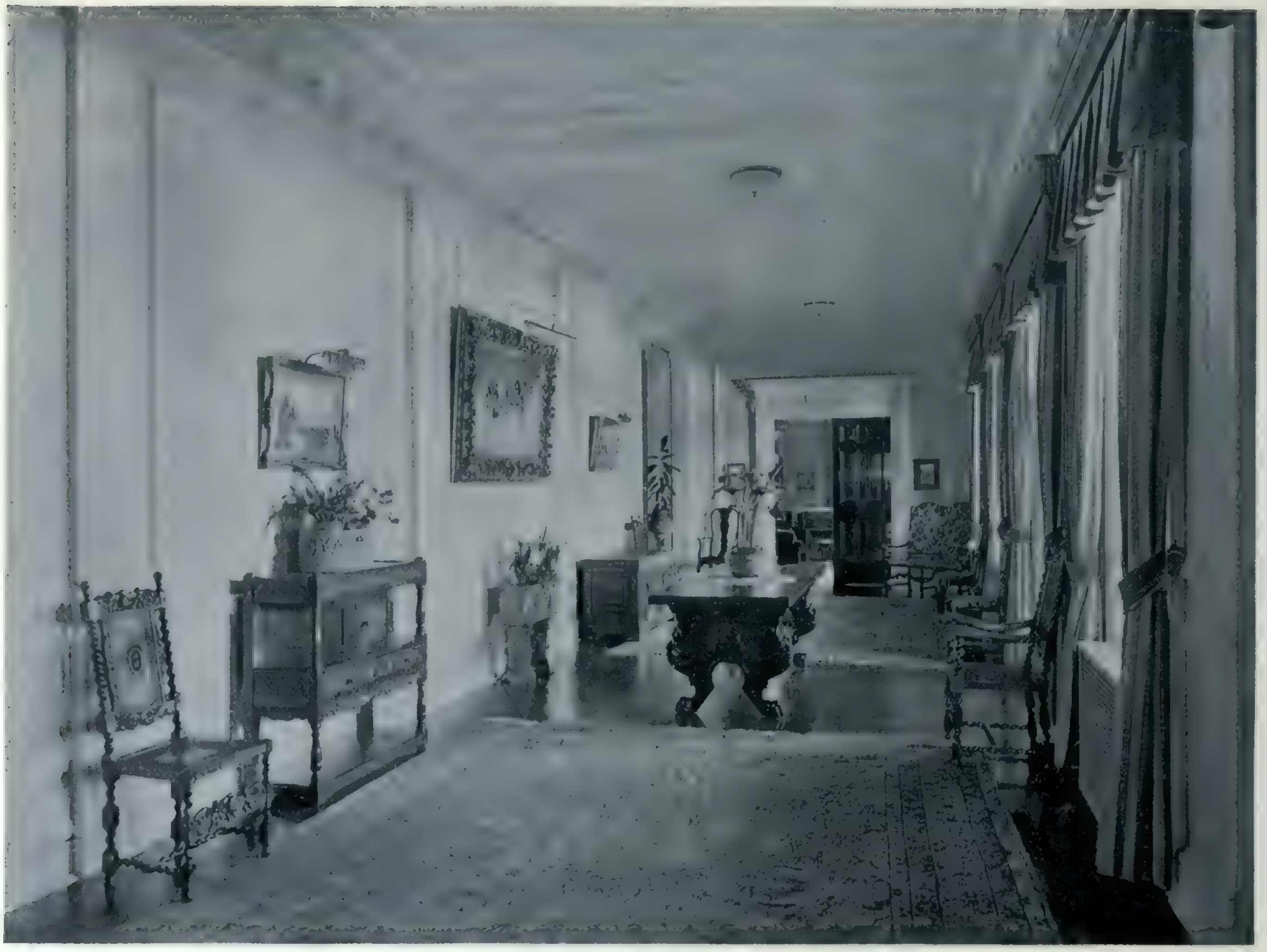
Residence of R. S. McLaughlin, Esq., Oshawa

THIS house is situated on high, level ground at the north side of what used to be Prospect Park, a four-acre site having many fine trees, and overlooks beautiful green lawns and flower beds to the south. A driveway from Ormond Street, the principal thoroughfare of Oshawa, leads to a large stone-paved portico which, in turn, gives access to a vestibule having a mosaic tile floor, panelled walls, and an ornamental plaster ceiling.

The entrance hall extends up two floors, being lighted by an ornamental ceiling light, supported on a colonade of small Doric columns and having a circular stone staircase of the open newel type, with a metal hand-rail. The walls of this hall, which has a marble-paved floor, are covered with silk panels, three of which, facing the vestibule door, conceal the mechanism of a large organ.

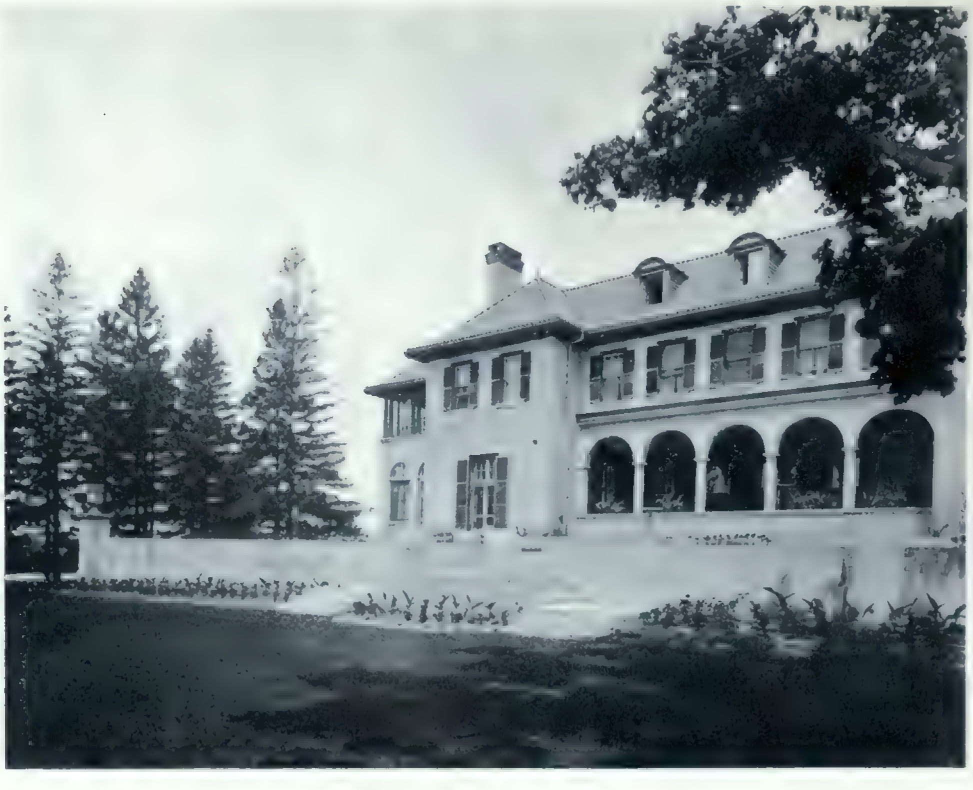
At the left on entering is a long hall or corridor, the walls of which are panelled. The flooring here is of wide oak boards, with ebony strips between. The south side of this hall has windows opening into a loggia paved with red quarry tile and having a vaulted ceiling carried on stone columns on the side overlooking the south lawn. These columns are so designed that a glazed screen may be erected outside the columns for the winter months, leaving them standing free inside; the heating being so arranged that the radiators may be easily removed during the summer months.

VESTIBULE.



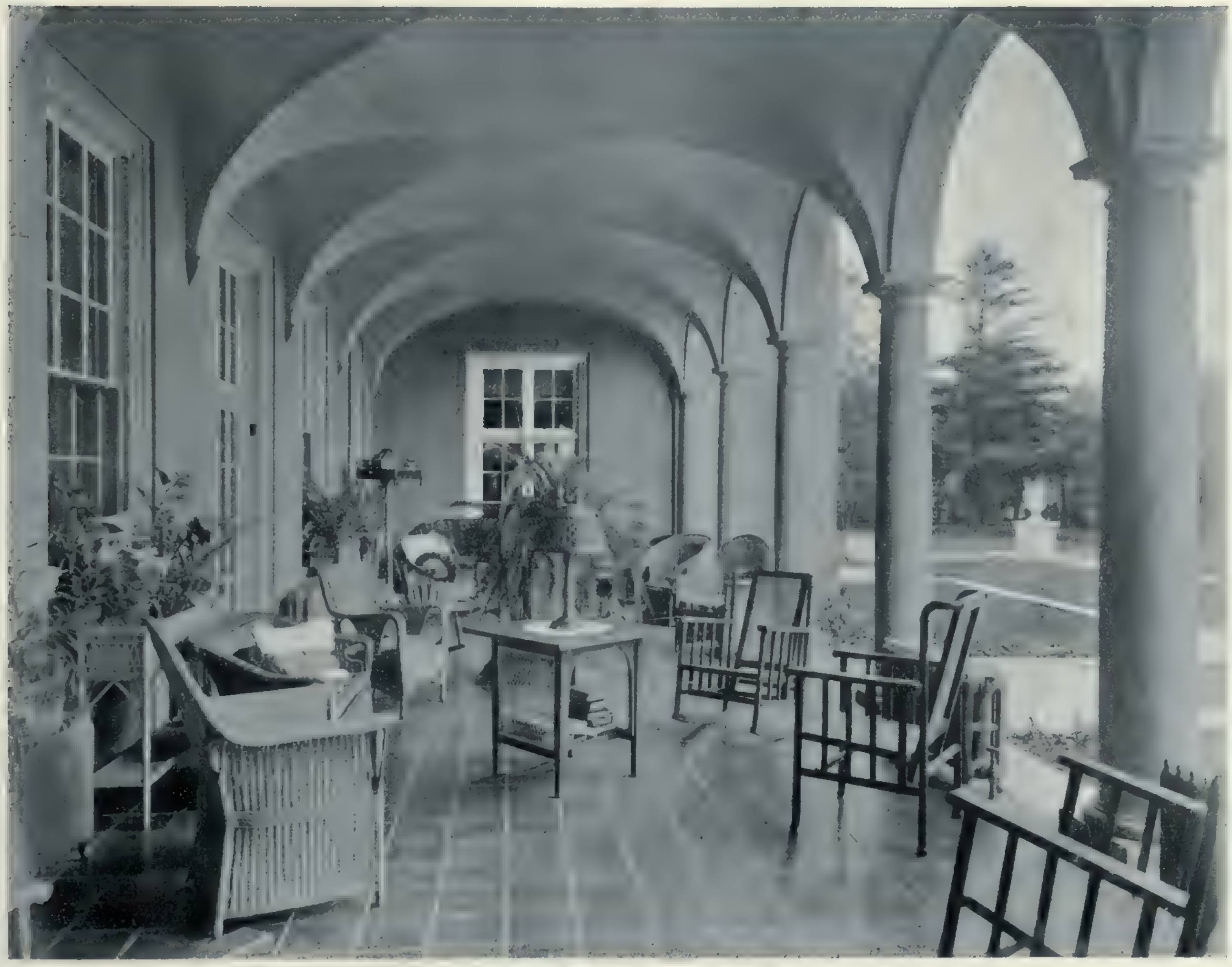
CORRIDOR ALONG LOGGIA: RESIDENCE OF R. S. MCLAHGHLIN, ESQ., OSHAWA, ONT.

One end of the hall and loggia opens into the drawing-room and the other into the dining-room. Off the dining-room is a dining verandah which is enclosed in glass for winter and fly screen in the summer.



SOUTH-WEST CORNER.

An oak panelled hall to the right of the vestibule leads to the billiard-room, bowling alley, swimming pool and squash ball court. The billiard-room has oak panelled walls with a wooden - beamed ceiling and a door at the end which leads to the garage and stables. The end of the bowling alley is widened out to form a room, one side of which is entirely of plate glass and opens into a large palm house, which is one mass of foliage and color. This palm house also connects with an extensive greenhouse beyond. The swimming tank has a cork tile floor around the pool, the surrounding walls being

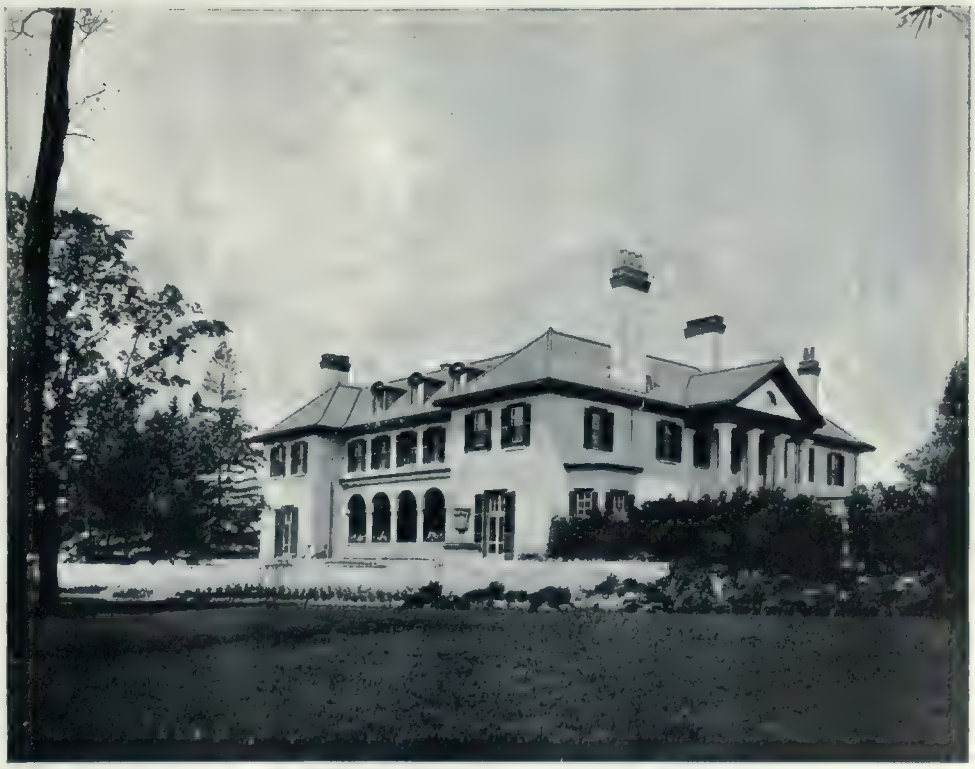


VIEW OF LOGGIA: RESIDENCE OF R. S. MCLAUGHLIN, ESQ., OSHAWA, ONT.

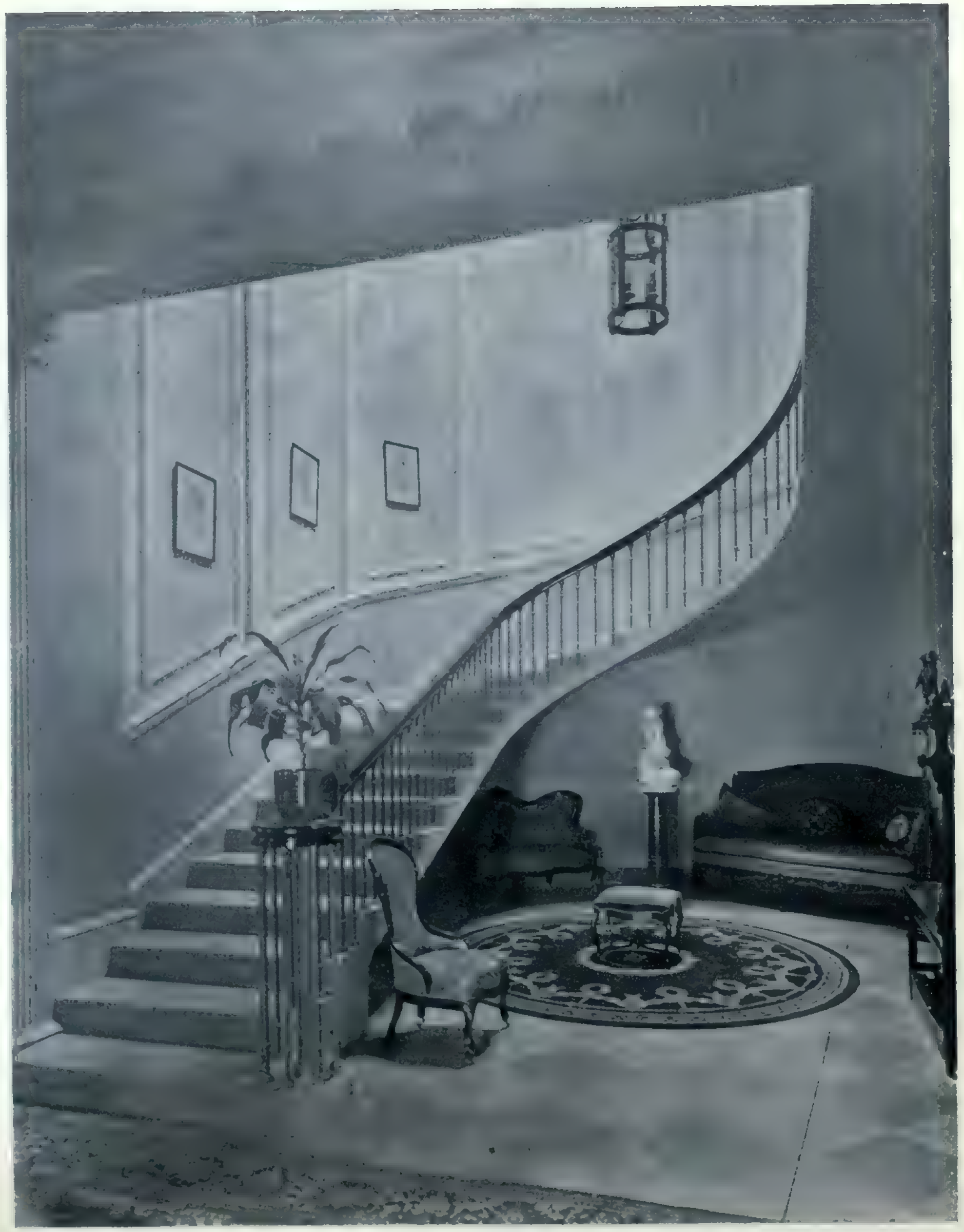
tiled to the height of six feet, and the tank itself having a white tile lining.

The service portion of the house is very complete, with automatic push button elevators, a large service pantry, and plenty of cupboards and platewarmers. The kitchen is well lighted with windows on two sides and has a ventilating fan placed in the roof space. Adjoining is a large scullery, a cook's pantry with ample regrigeration, and a servants' dining-room. The floor of the kitchen section is covered with red quarry tile throughout.

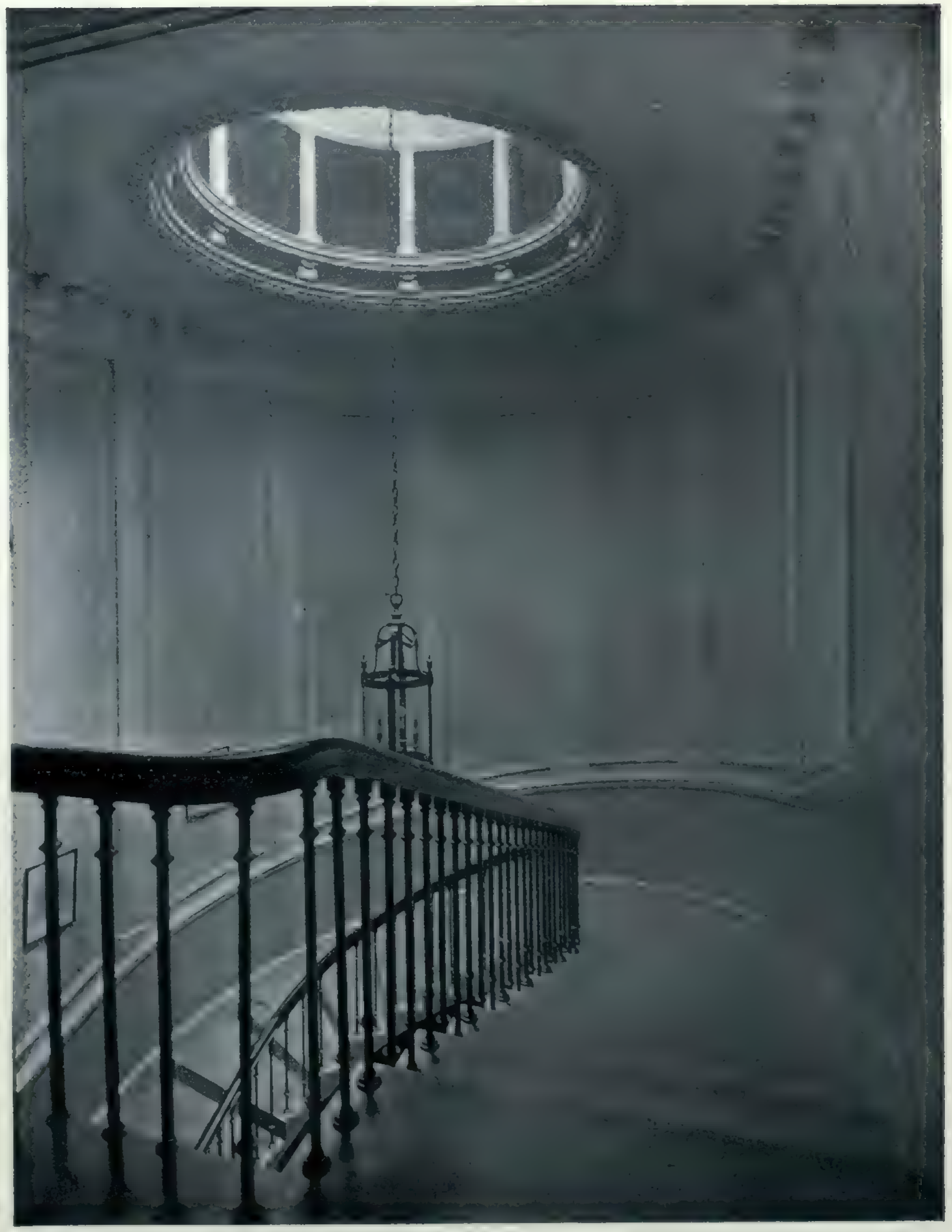
In the basement is a large laundry, complete with washing machines, dryers, etc. A large cold storage room is also located in the basement, and is chilled by a refrigerating plant situated in the potting house, about one hundred feet from the main structure.



GENERAL VIEW.



STAIRCASE.



UPPER STAIRS HALL.

RESIDENCE OF R. S. MCLAUGHLIN, ESQ., OSHAWA, ONT.

DARLING & PEARSON, ARCHITECTS.

On the first floor is a ball room, a school room and a large sleeping porch, as well as the principal bed rooms, each of which has its own separate bath. The attic is taken up with servants' bed rooms and lavatories.

The house is built of hollow tile walls, 1 ft. 6 in. thick, covered with roughcast, the floors being all of reinforced concrete construction, and the roof covered with Spanish tile of six different shades of green.

On the south side of the house the lawn is laid out with paths, flower beds, sun dials and fountains. The approach to the house, the garage, the stable yard and the kitchen yard, are all separated from the lawns and gardens by cedar hedges. The general scheme also includes an orchard and a vegetable garden, and a very pleasing feature is a rose garden, situated on the north side of the house, laid out with paths and having a bird bath in the centre.

All the buildings on the property with the exception of the cottage or lodge are heated by a forced system of hot water which is generated in two fire-box boilers and accelerated by a centrifugal electrically operated pump, the several heating circuits being controlled by means of automatic control valves actuated by thermostats in the living quarters. The lodge is heated by a hot air system.

There is also a very complete water supply system which is fed by the town supply, a pneumatic tank and electrical pump being provided to increase the pressure when necessary. All the water piping is covered to prevent sweating and to retain the heat, and all interior drainage is of cast iron of extra heavy weight.

The piping is so arranged and valved that the greenhouses, lawn supplies, stables and garage, cottage and residence may be supplied either from the direct town pressure or by the increased pressure system on the premises, the latter being resorted to only when the town pressure is insufficient for the needs of the property. Beside this there is a cistern for collecting rain water from a portion of the roof, which is supplied to the laundry by means of a force hand pump.

VIEW OF LOGGIA ENCLOSED: RESIDENCE OF R. S. MCLAUGHLIN, ESQ., OSHAWA, ONT.

Building Research

Research is now admitted to be one of the essential parts of reconstruction or speedy progress; the advantage of research is now acknowledged in every industry—except building. Why not in building? Is it because we have achieved the perfect house? Clearly not. During the next few years we shall find new materials, processes and fittings. Just as in the last fifty years we have invented improved roofs, walls, floors, doors, locks, stoves and lighting, ventilation and drainage, so we shall in the next fifty years improve on to-day's methods. Then why use inferior methods

DRAWING ROOM: RESIDENCE OF R. S. McLAUGHLIN, ESQ., OSHAWA., ONT.

when we could use better ones? If a thousand years ago a few brainy men had been picked to search deliberately to improve building (and other industries) we should have had better buildings five hundred years ago than we have to-day. During the next few years, says *Building World*, of London, we are going to spend millions of dollars on building houses. Is it not mere common sense, is it not wisdom, spend, say, one million determining the right kind of house and the quickest way to make it? Isn't research really necessary more in building than in any other industry? We must have houses; we must have them now; we know they can be improved. Research is not the builder's business; he can't afford it. Research is everybody's business and nobody's business. It is therefore the Government's business. — *The American Architect.*

Artificial Stone from Mica and Clay

Mr. Chr. Ingvaldsen, of Saaheim, Norway, claims to have devised a process of making a practicable building stone by mixing finely divided mica with a just sufficient amount of clay or other substance of similar properties to form a coherent mass, which is then shaped into blocks, plates and other objects of any desired shape and size. These, it is learned, are then fired at a temperature just high enough to fuse the mass, the resulting stone having in general the same properties as natural mica.

If it be desired to produce stone having greater resistance to high temperatures the process is modified as follows: Instead of mica alone, a mixture of equal parts of mica and of crushed quartz, with just enough clay to act as a binder. The stones formed from this mixture are fired at a temperature high enough to secure the fusing of the mica. The result is a homogeneous mass not only highly refractory to heat, but capable of acting as an electric insulator.

BREAKFAST ROOM.

Britain's Timber Shortage

Because of the serious shortage of timber supplies for use in the United Kingdom, the British Government has provided for afforesting 1,770,000 acres in a period of 80 years at a cost of about 73 million dollars, 250,000 acres to be afforested in the first ten years. This would be, however, almost a negligible factor in reducing imports.

BOWLING ALLEY: RESIDENCE OF R. S. MCLAUGHLIN, ESQ., OSHAWA, ONT.

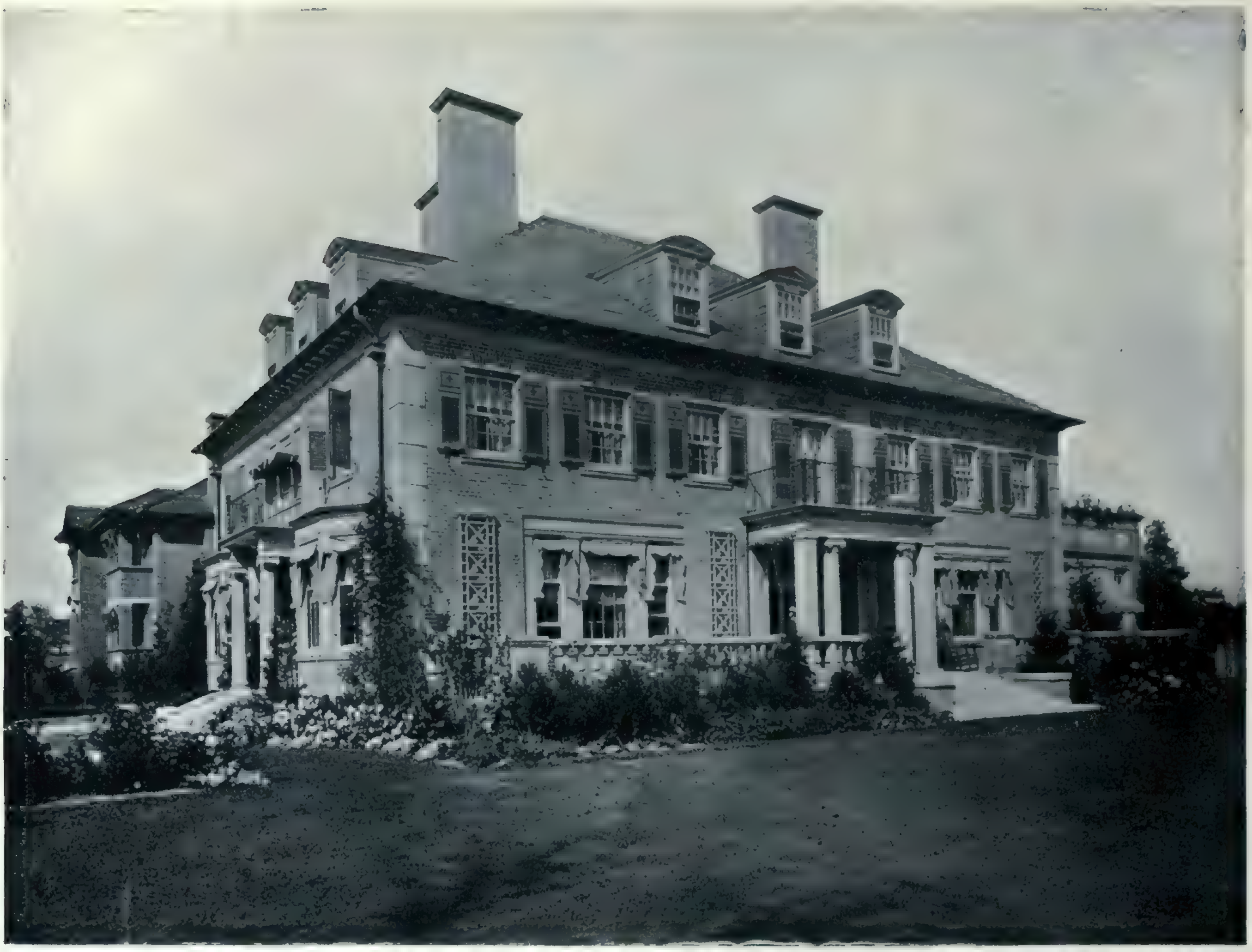
Prof. Stebbing, head of the Forestry Department of the University of Edinburgh, says: "We found sufficient timber in the country — for the most part of a very inferior quality—to enable us to win the war, but to do that we have seriously depleted the three million acres of woods, all we had standing when the war began. . . . Just before the armistice was signed it had been estimated by the timber supply department that at the then rate of utilization there only remained in this country sufficient softwood timber to carry on to the end of the present year, pit wood for about six years and hardwoods for ten years. The supplies remaining in this country were insignificant when we consider the gigantic amounts required for reconstruction work on the Continent and our own enormous demands."

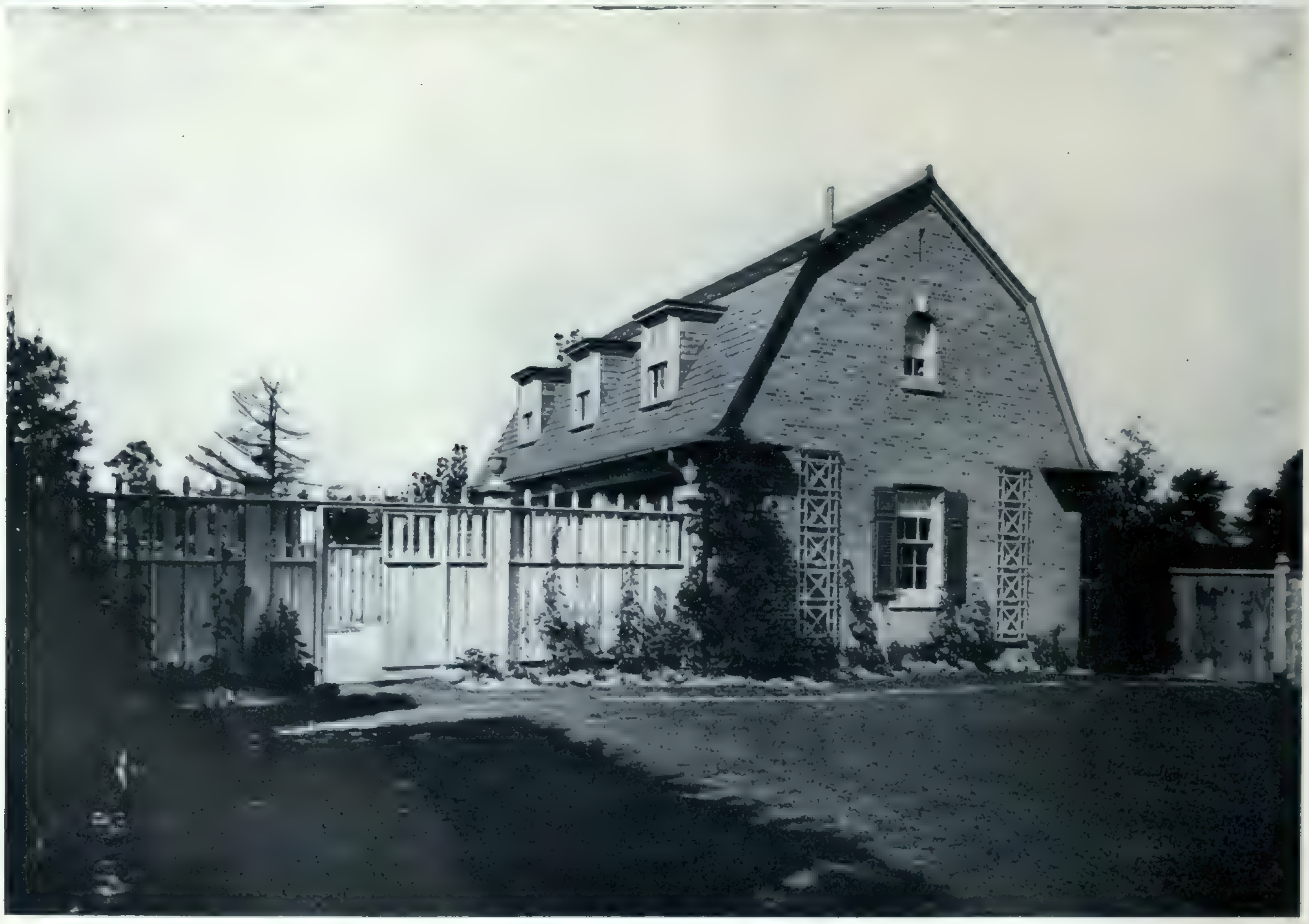
The shortage is claiming careful consideration from Chambers of Commerce and other responsible bodies in England, and one Government committee recommends that "immediate steps be taken by the Government for the importation of at least 100,000 standards (nearly 200,000,000 board feet) a month of softwood for all purposes the first year after the war." This same committee reports that there is a shortage of 300,000 working-class houses in England and Wales and 100,000 in Scotland.

* * *

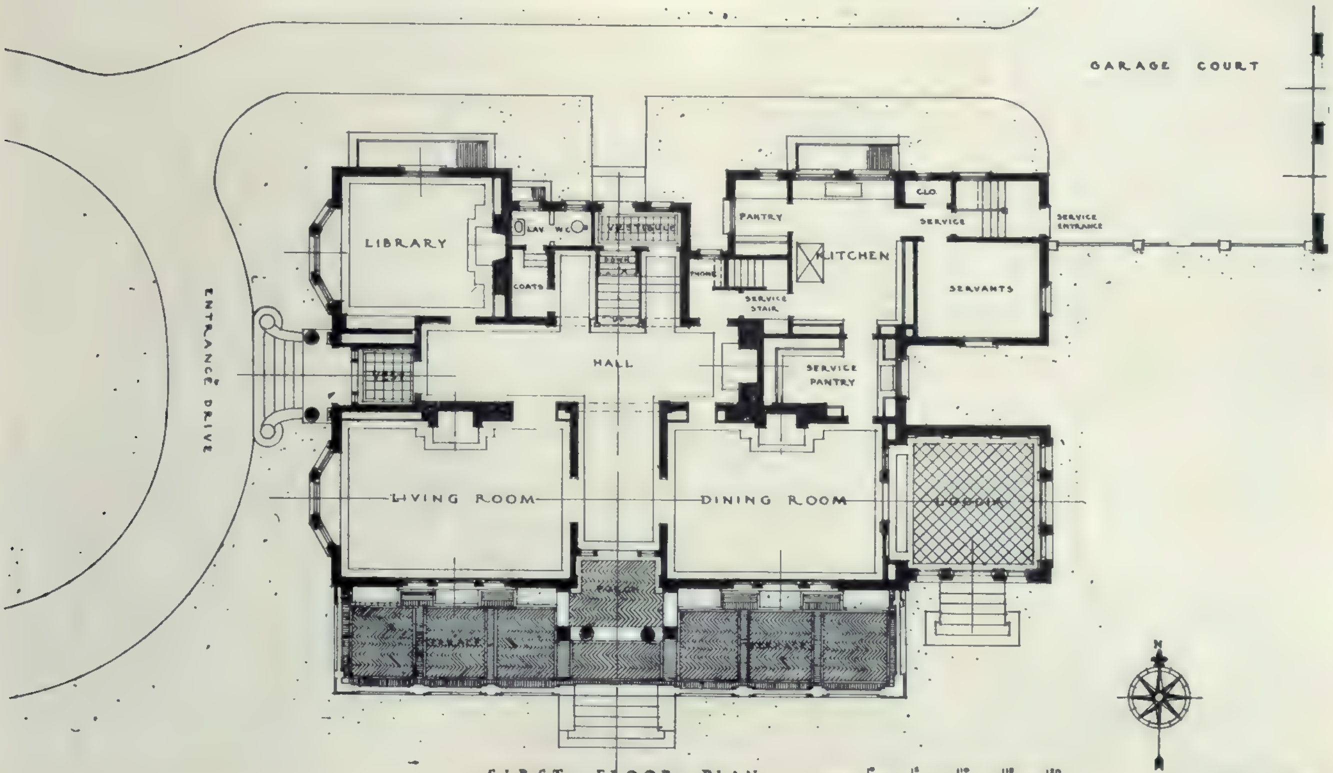
Electrical appliances for domestic purposes are advocated by the Women's Housing Sub-Committee of the Ministry of Reconstruction's Advisory Council of Great Britain, which has been considering the matter of improved living quarters for working-class families. It is stated that when the houses and water supply are heated and the lighting and cookery done by electricity, half of the domestic work now necessary will be eliminated. Other recommendations are in reference to furnaces, hot-water heaters, kitchen cabinets, clothes-drying racks, and water-proof wall surfaces, which are already common in the majority of Canadian houses.

BILLIARD ROOM

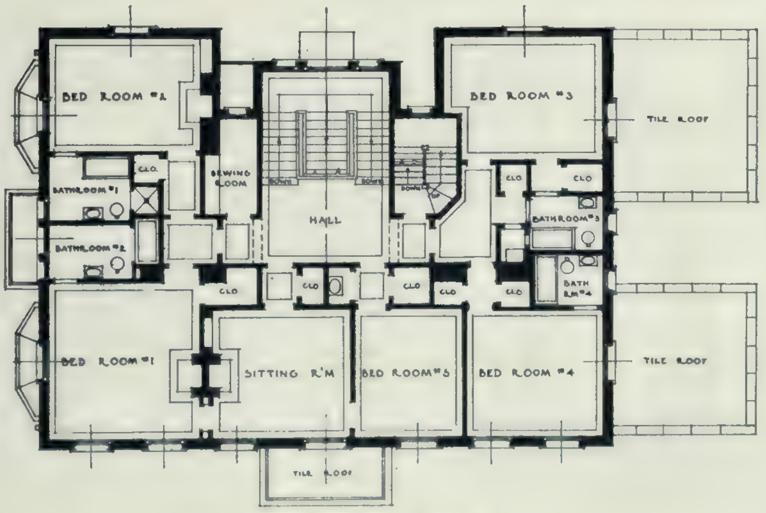




HOUSE AND GARAGE AT LONSDALE AND DUNVEGAN ROADS, TORONTO.
CHARLES S. COBB, ARCHITECT.



FIRST · FLOOR · PLAN · SCALE 0 5 10 15 20 FEET

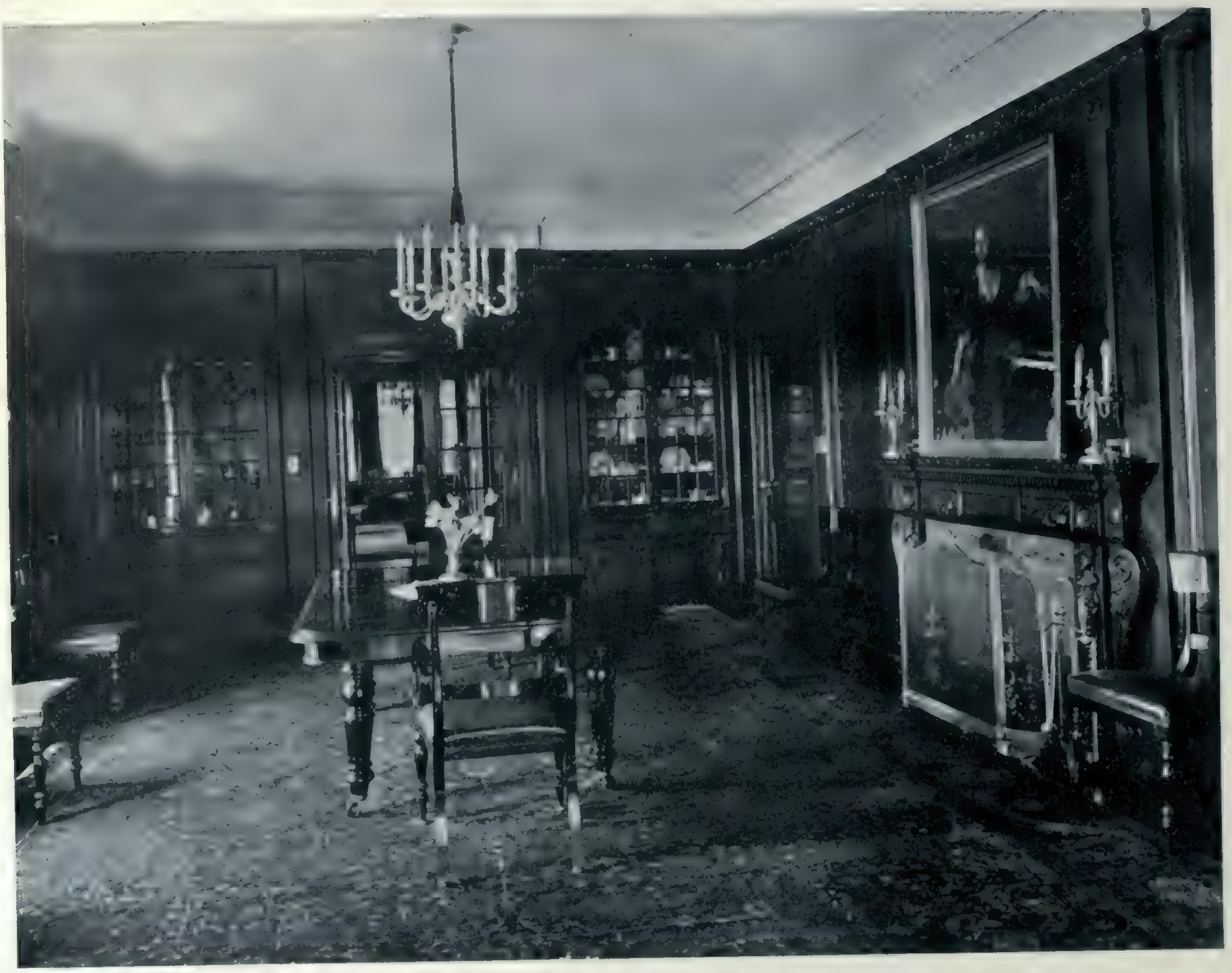


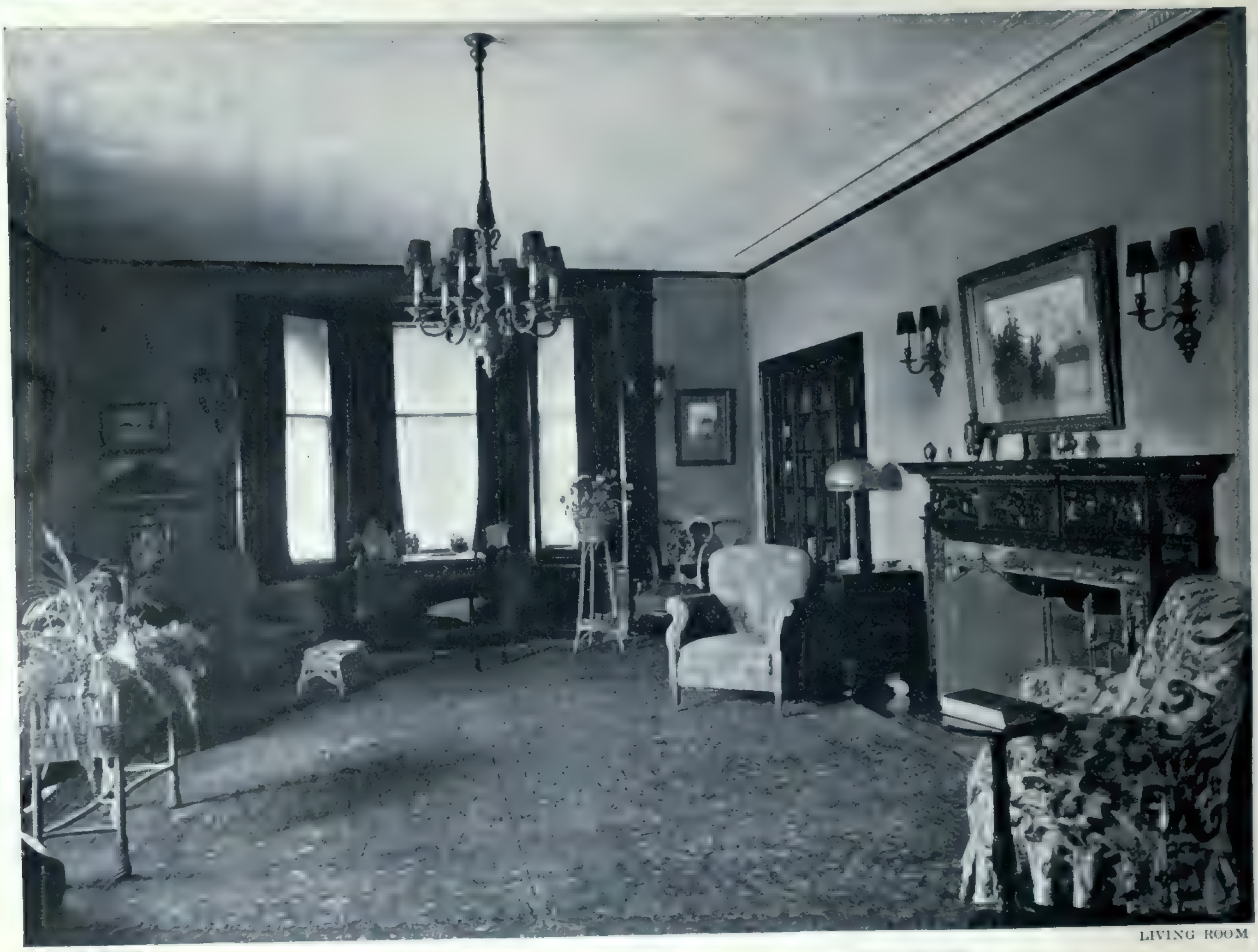
SECOND · FLOOR · PLAN

HOUSE AT
LONSDALE AND
DUNVEGAN ROADS
TORONTO.

CHARLES S.
COBB, ARCHITECT.

CHARLES S. COBB · ARCHITECT
71 BAY STREET · TORONTO





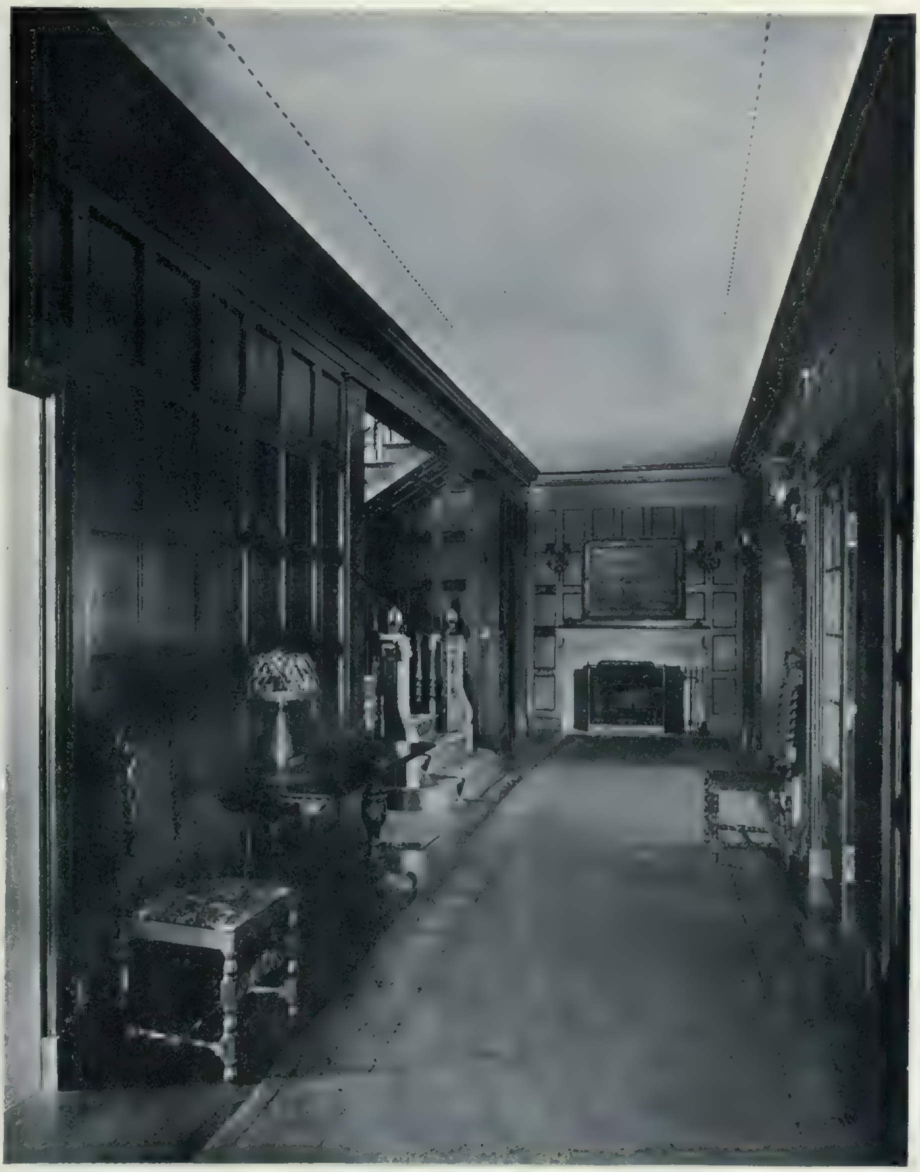
DINING ROOM LIVING ROOM

HOUSE AT LONSDALE & DUNVEGAN ROADS, TORONTO.
CHARLES S. COBB, ARCHITECT.

Examples of Recent Domestic Work

THERE are two ways by which we can judge artistic progress, one by comparison with work elsewhere, and the other by comparing present results with our previous efforts. Either way we find much that is not only satisfying, but which denotes a much higher order of attainment both as regards conception and workmanship. If in our architecture we are not achieving anything particularly new in the sense of style, we are at least achieving particuarly well as regards harmony in relation to form, color and the elements of composition. In short, we are responding more readily to the artistic impulse which, after all, is only a growing desire to do things well; for art in itself is but a tendency toward a more perfect state in what concerns the development of our surroundings.

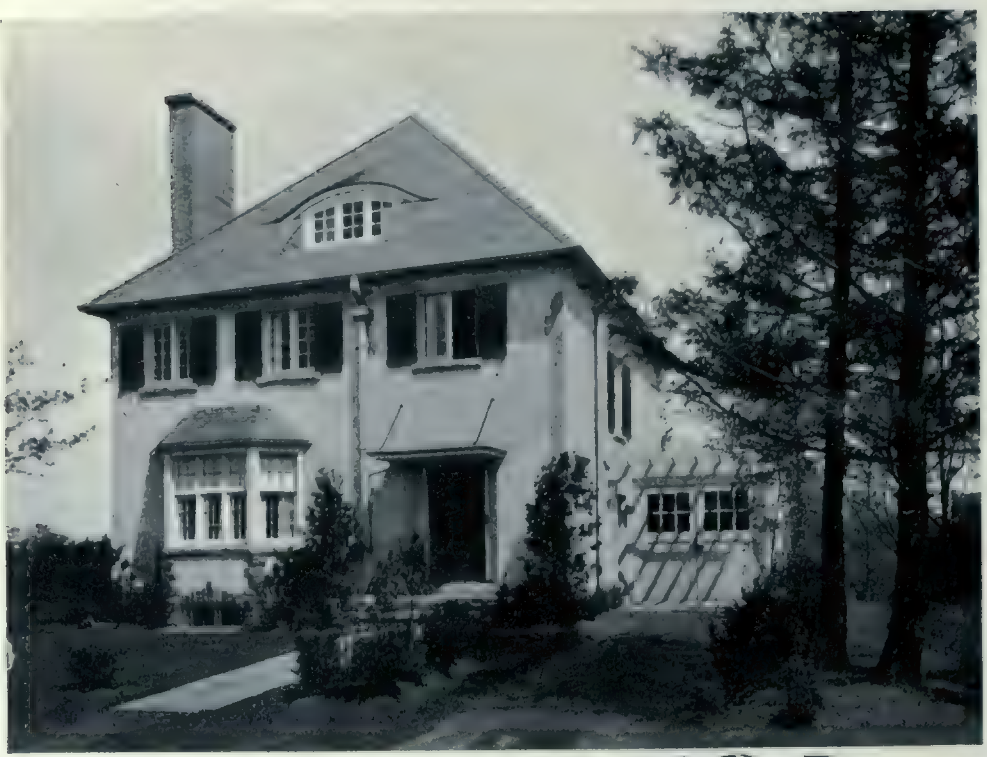
It is but natural to turn to our domestic buildings for the best evidence of progress in this direction, as the character of the home will always remain the surest index of culture and refinement. While admitting that there are countless houses showing a singularly sameness which betray the influence of what might be termed stock design, this is more characteristic of speculative work than the efforts of the architect. In the better aspects of our residential architecture there are many houses showing eminently successful results, and in not a few cases some really admirable examples. One thing happily to be noted is less striving to originate and less of a tendency to slavishly copy previous work. Individuality is being obtained without orginating. Designers are working with the more acceptable forms, and with better understanding. There is less pedantry, less affectation and more sincerity—a more earnest grappling with the problem.

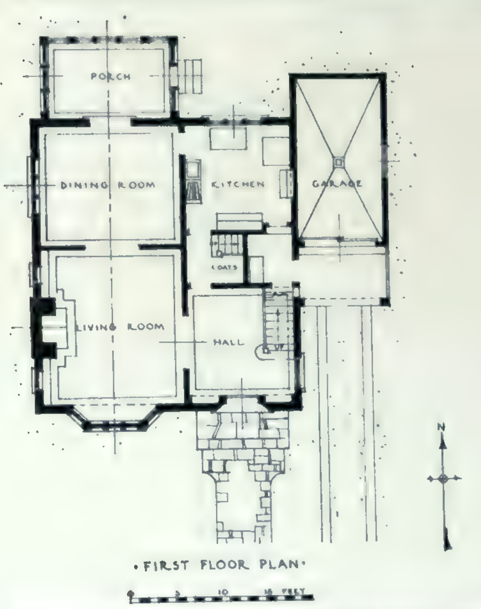


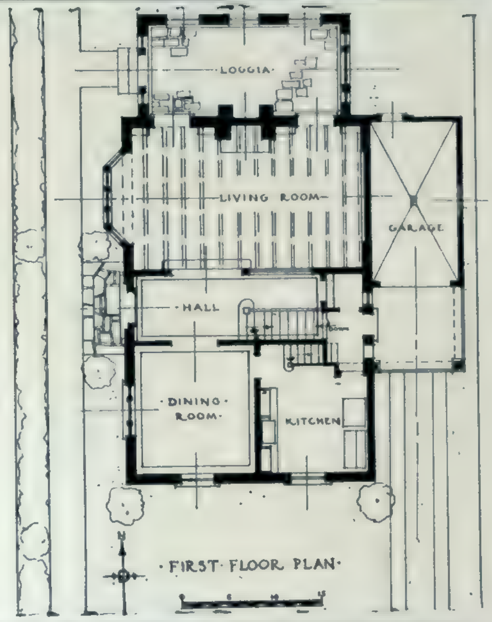
HALL: HOUSE AT LONSDALE AND DUNVEGAN ROADS, TORONTO.
CHARLES S. COBB, ARCHITECT.

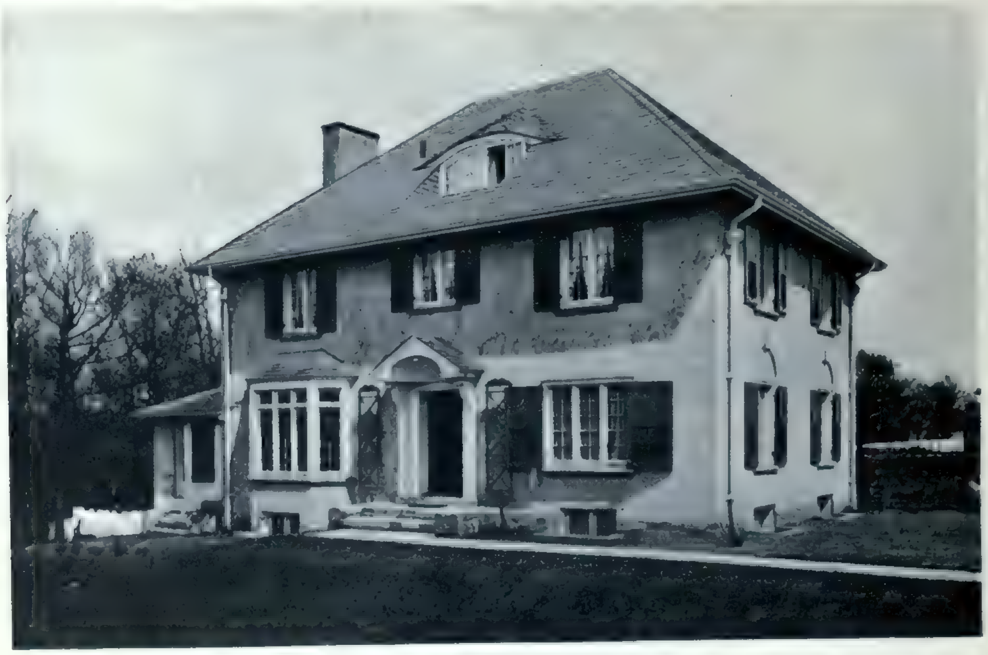
Contributing to the improvement which is taking place are several factors. One is the development of our industrial and commercial resources and a corresponding individual prosperity. Another is the interest manifested by clients, who appreciate that an attractive home is an important and necessary essential to their happiness. More consideration is being given to gardens and lawn space, the preserving of trees and natural features and the planting of flowers and shrubs. Besides this, the value of architectural services are being more generally recognized and better opportunities given designers to develop complete schemes. In some cases the architect does the planting under his own supervision, but more often he enlists the services of the landscape expert, and many beautiful estates have been developed through this sympathetic co-operation.

Perhaps the one discordant note is in the







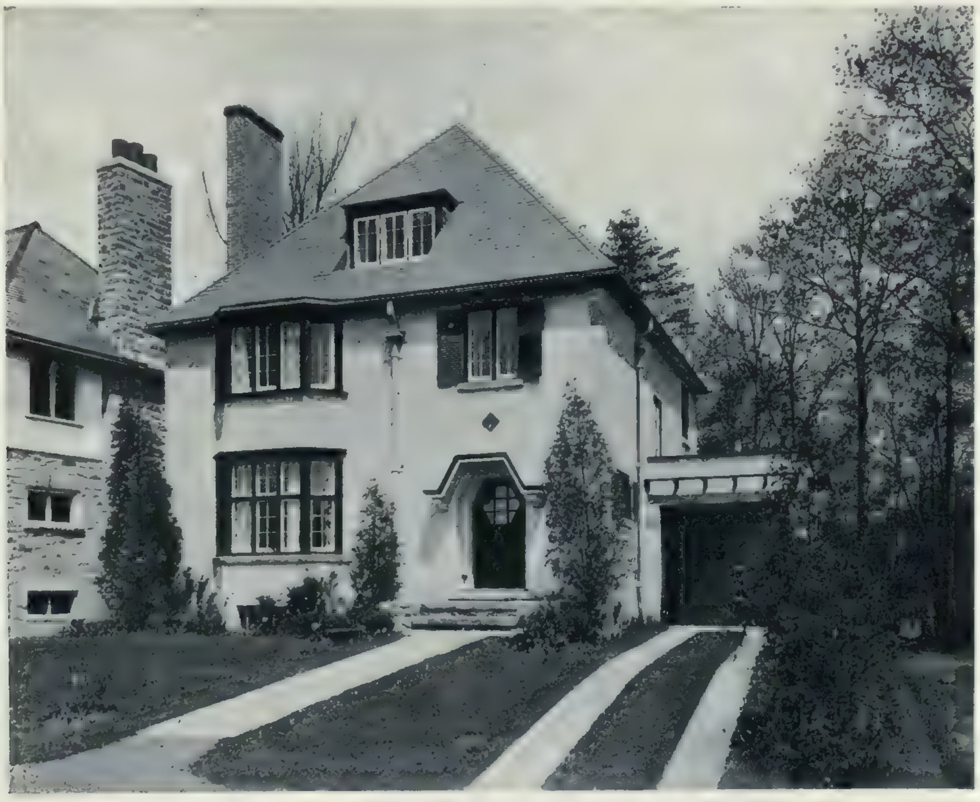


HOUSES AT "CEDARVALE," TORONTO, ONT.

CHARLES S. COBB, ARCHITECT.

matter of furnishings, which the client often either selects without consulting his architect or contrary to the latter's advice. Many an otherwise interesting scheme has been spoilt on this account. But even in the selection of furnishings the architect's special training is being recognized by owners who are at least taking counsel in choosing their household effects.

Altogether, a much improved condition is to be observed. ''Ornate designs and gilded imitations are ceasing to attract us. The lure of the fake antique, the fascination of the imported product and the charm of the once popular but useless *bric-a-brac* are on the wane. Instead we are building and furnishing and decorating for permanency. Good taste and intrinsic beauty are guiding our fittings—not the ephemeral and unreliable tyrant known as Fashion. More and more we are doing our own thinking and planning and selecting, and expressing our own individuality that we ourselves help to create.''



HOUSE AT "CEDARVALE," TORONTO. CHARLES S. COBB, ARCHITECT.

It is the purpose of this issue to present photographically a number of recent examples, and we believe in most cases the character of the work illustrated will prove of interest and afford a comparison with earlier subjects, indicating the progress which is being made.

House at Lonsdale and Dunvegan Roads, Toronto.

This house is situated on a property 170 feet on Lonsdale Road and 150 feet on Dunvegan Road. By locating the entrance on Dunvegan Road, the entire southern frontage was left unobstructed for the terrace and garden, and was the main consideration in determining the plan.

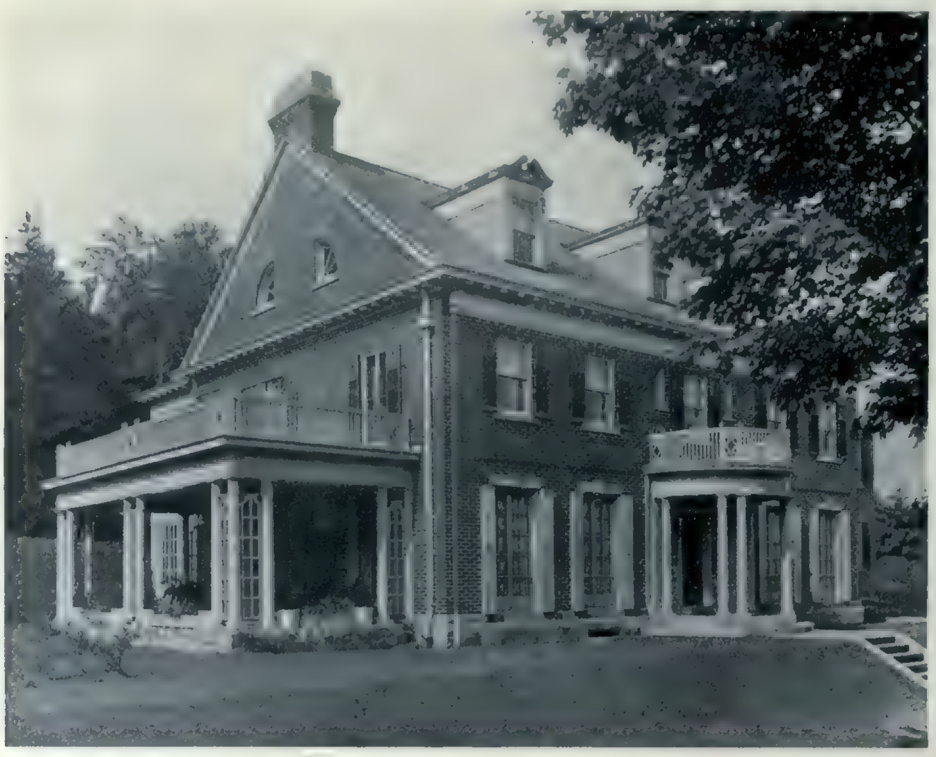
The exterior is constructed of grey tapestry brick, laid in English cross bond, backed with hollow tile, with trimmings in Indiana limestone. The terrace is paved with brick similar to the facings. An interesting feature of this house is the rough variegated slate roof. The slates are a mixture of greys, greens and browns, including both the unfading and the weathered varieties. Random widths with rough edges with a free graduation toward the ridge are employed. The shutters are painted a blue-green.

Considerable fine woodwork is employed in the interior. The hall is panelled to the ceiling with American black walnut, and the living-room is similarly trimmed with low wainscotting and window casings, etc.

The dining-room is panelled to the ceiling with Honduras mahogany with silver fittings. Mahogany is used to trim the library, and grey enamel is used in the loggia in connection with a Botticino marble floor.

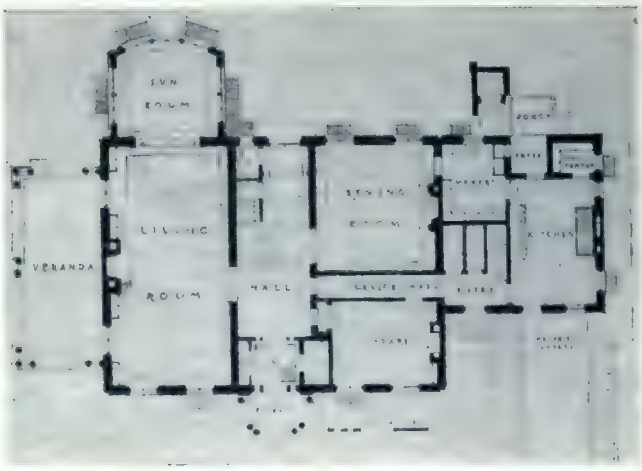
A carved Indiana limestone mantel occurs in the hall. The marble facing of the living-room mantel is black and gold, and other colored marbles are used in the mantel facings of the dining-room, library and bed rooms. The main feature of the stair hall is a painted glass window adopted from an Italian Renaissance piece in the Laurenzian Library, Florence, and attributed to Michel Angelo Buonarroti.

The heating is hot water throughout, all of the radiators in the main rooms being concealed behind wood grilles. The garage is heated by a separate boiler in connection with the house heating system. The garage has a two-inch air space in the brick exterior walls, which assists materially in insulating the building from cold in the winter.

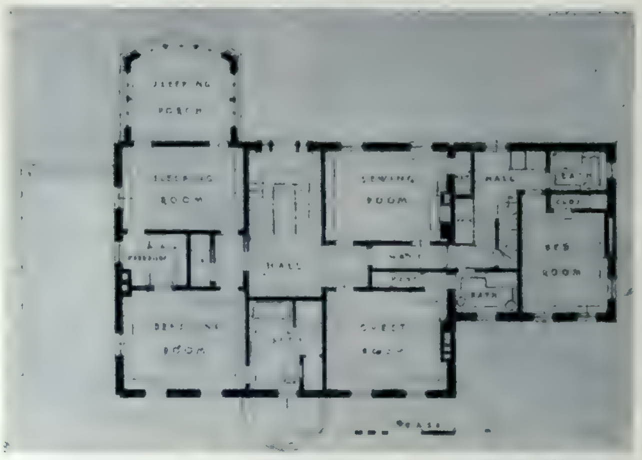


RESIDENCE OF FRED. T. SMYE, ESQ., HAMILTON, ONT.

GORDON J. HUTTON, ARCHITECT, PAUL DOMVILLE ASSOCIATE.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

White enamel trim and mahogany doors are used throughout the second and third floors.

Houses in "Cedarvale," Toronto.

A compact, economical layout was desired, and so a simple square or rectangle was the basis of the plan in these houses. Hollow tile stuccoed was used for the exterior walls. The stucco has a rough trowelled surface, and is slightly tinted, which harmonizes in a pleasing manner with the abundant planting. Blue-green shutters help to give interest to the simple lines of the exterior.

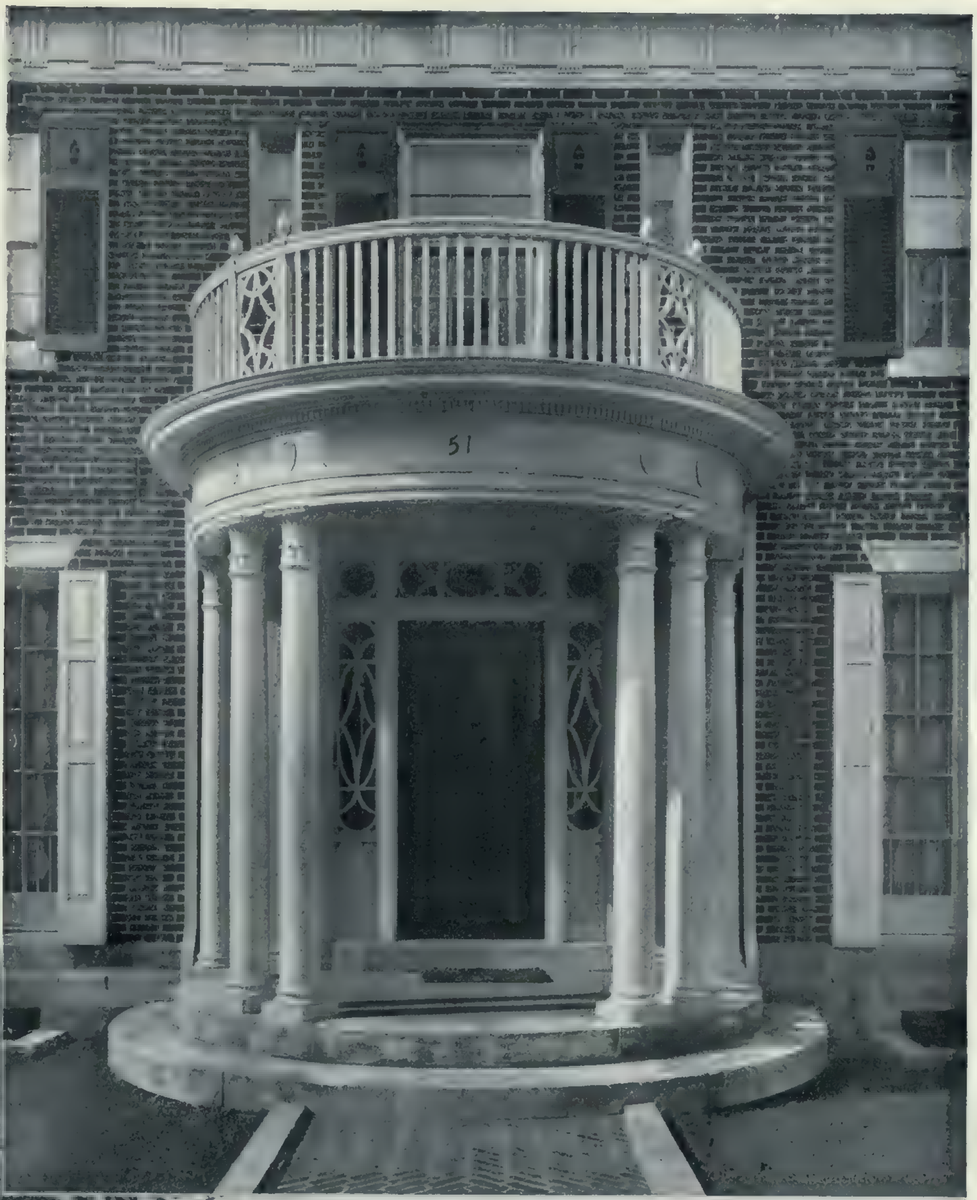
Variegated slate, with a certain amount of graduation toward the ridge, is used for the roofing material, and has proven well worth the small additional cost over the usual shingle roof in the greatly added effect of permanence and good looks.

The interiors are simply arranged, rough plaster being used on the walls, with gumwood trim. The garages are directly connected with the houses.

Residence of Mr. Fred T. Smye, Hamilton, Ont.

The problem in this instance was complex, in that the house was virtually built on the side of a hill on a comparatively small lot, and is

RESIDENCE OF
FRED T. SMYE, ESQ.
HAMILTON,
ONTARIO.



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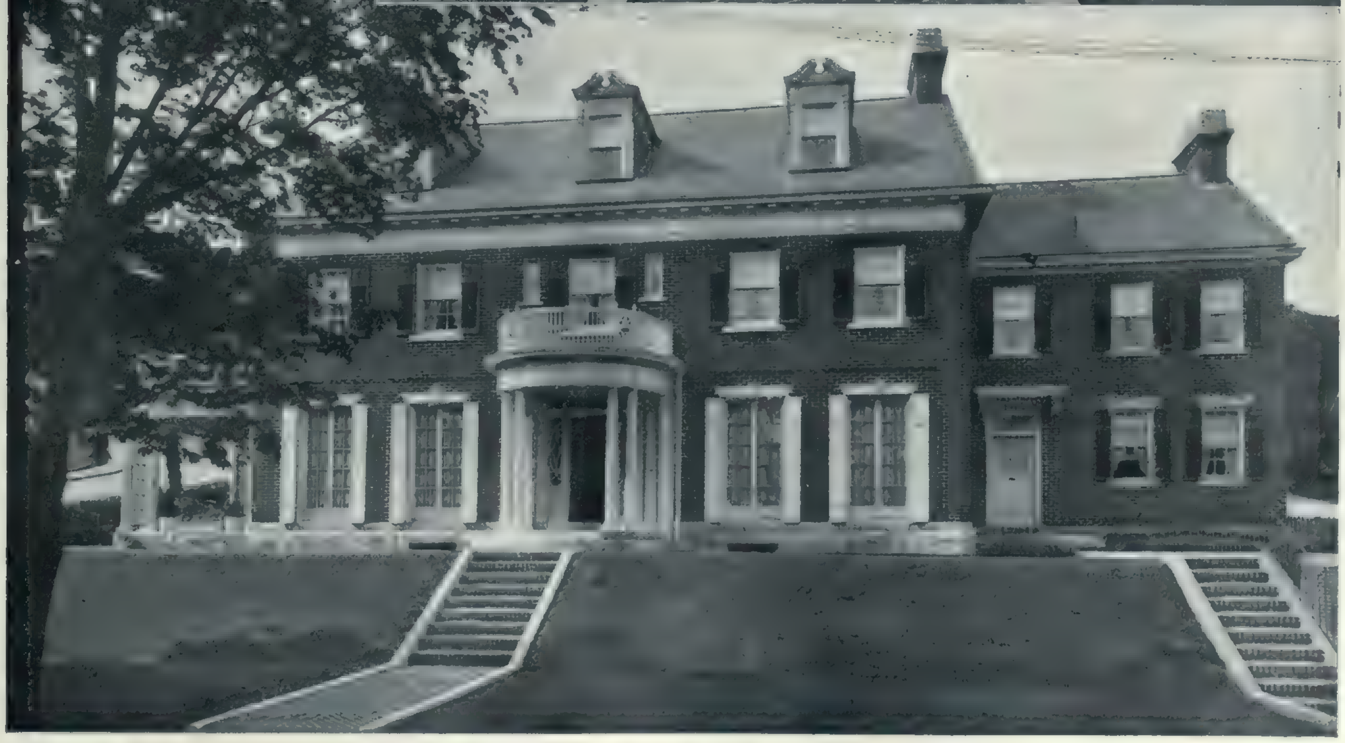
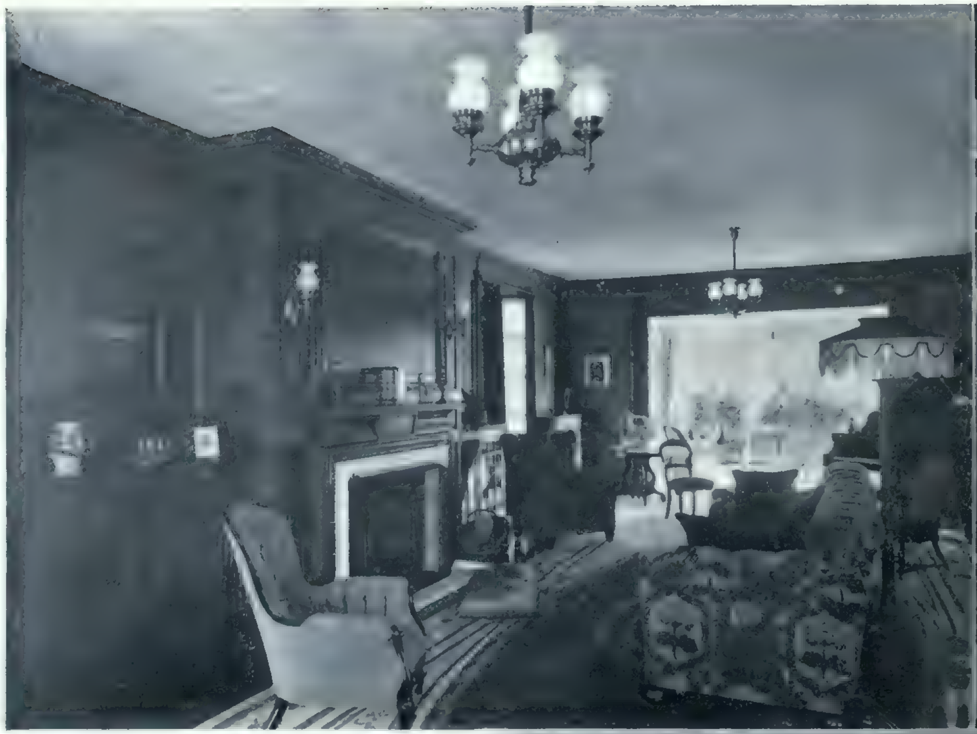
ENTRANCE.

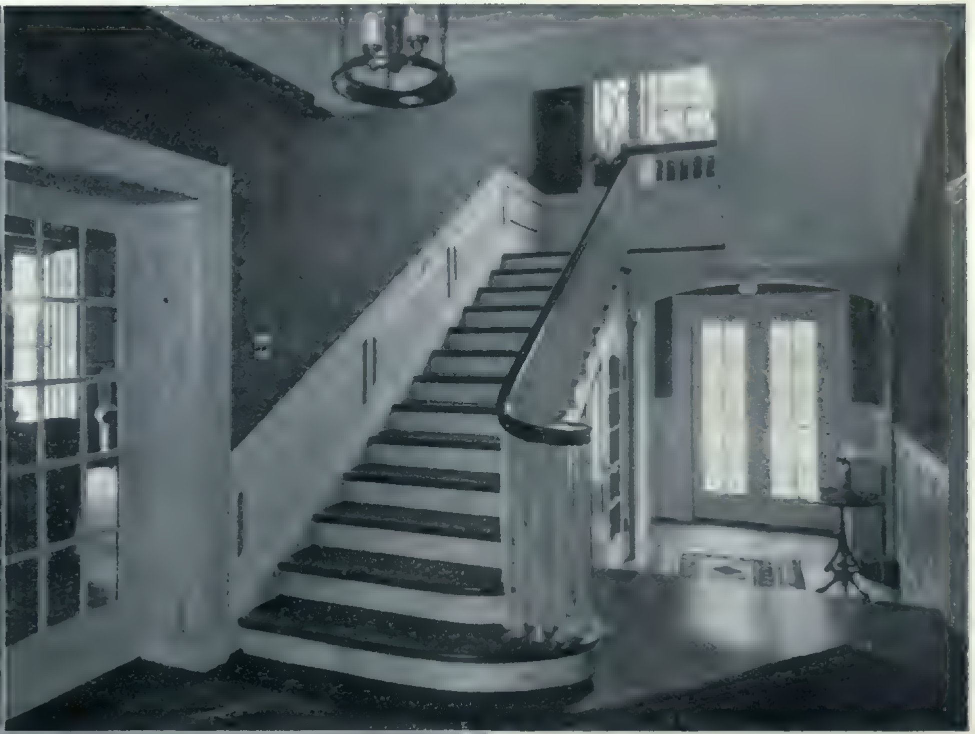


GORDON J. HUTTON,
ARCHITECT.

PAUL DOMVILLE,
ASSOCIATE.

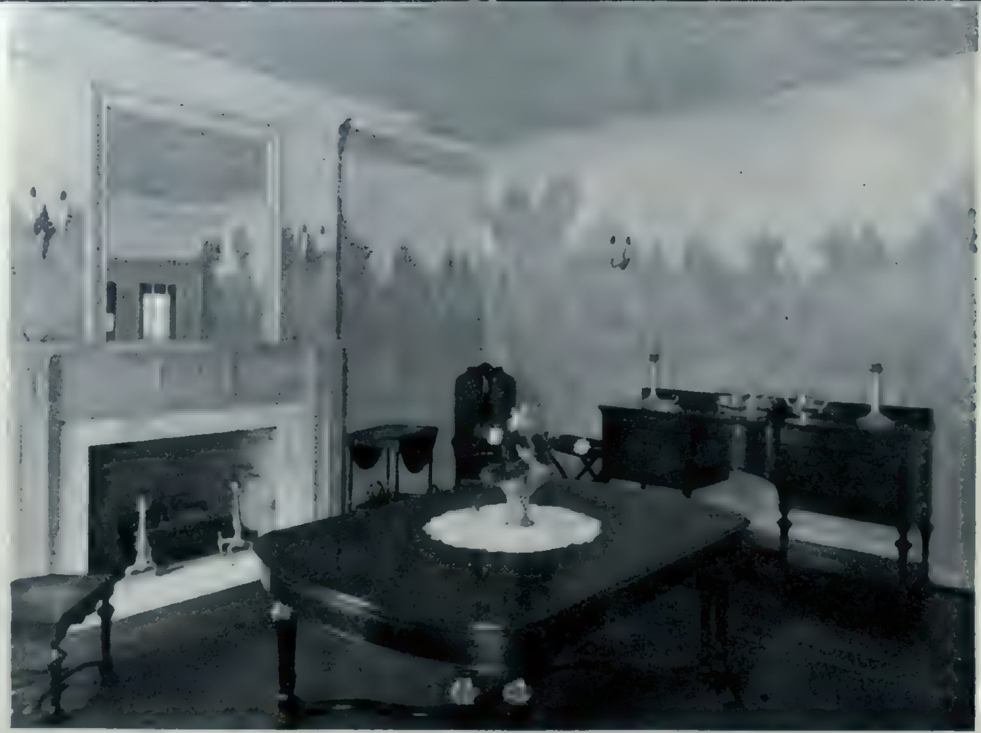


LIVING ROOM



STAIRCASE HALL

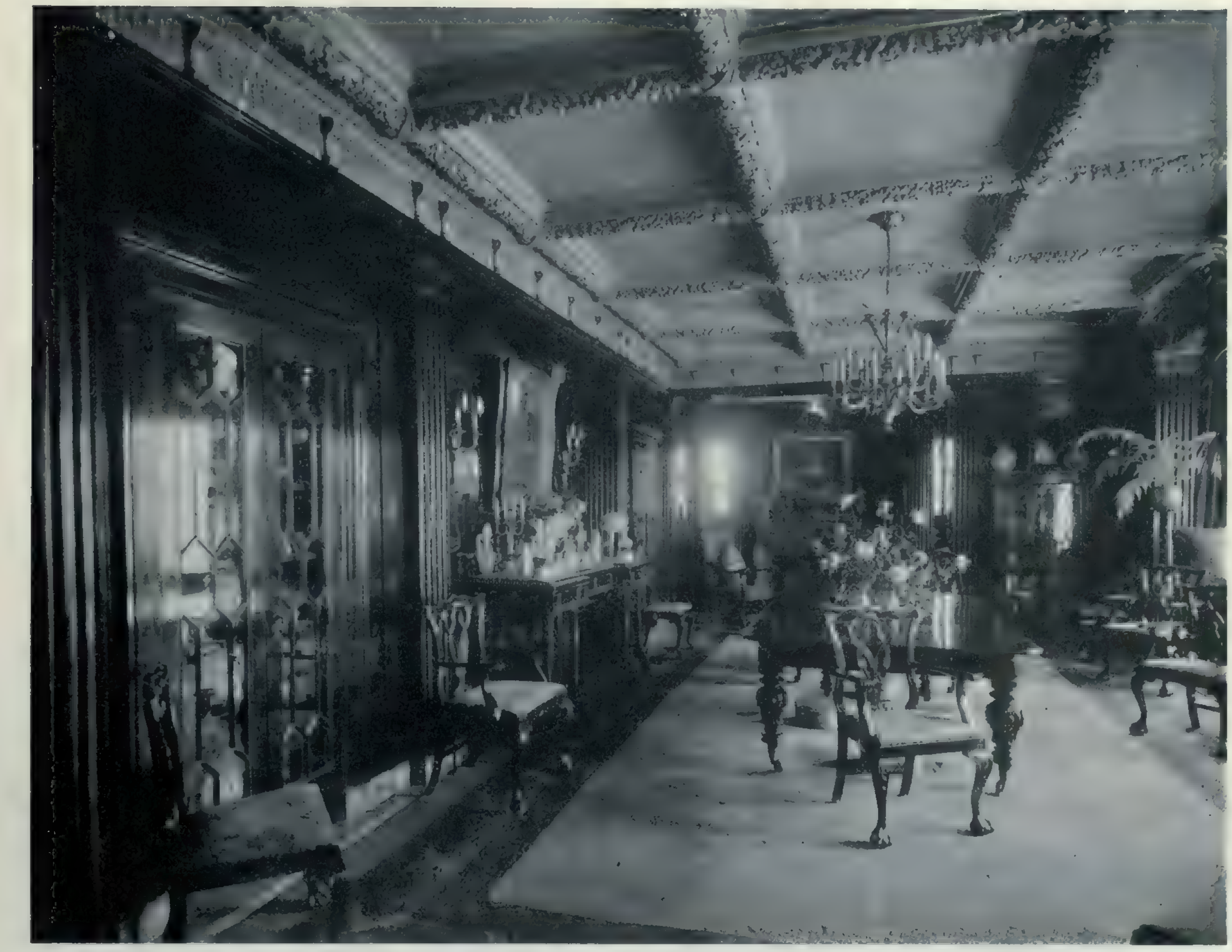
RESIDENCE OF
FRED T. SMYE, ESQ.
HAMILTON,
ONTARIO.



DINING ROOM

GORDON J. HUTTON,
ARCHITECT.

PAUL DOMVILLE,
ASSOCIATE.

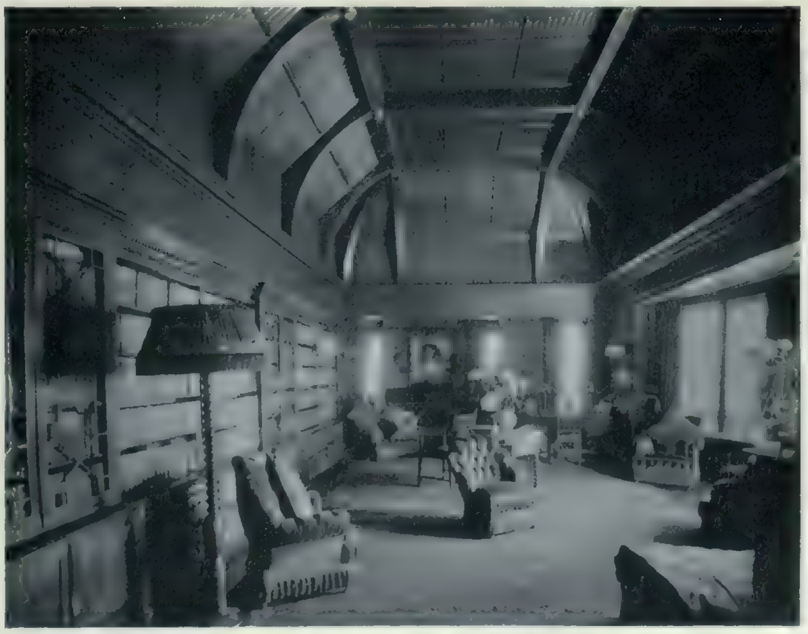


DINING ROOM: RESIDENCE OF HON. MR. JUSTICE RIDDELL, TORONTO. F. S. BAKER, F.R.I.B.A., ARCHITECT.

almost equally prominent from three sides. By taking advantage of the extreme slope of the lot, the garage is incorporated into the house under the service wing.

The sun room, dining room, and hall all look out on a small formal garden suggestive of the Italian, and terraced up to the upper level of the lot some 20 feet above where it is terminated by an old stone wall hidden by a screen plantation.

Quite a lot of the landscape work is yet to be carried out to complete the scheme.

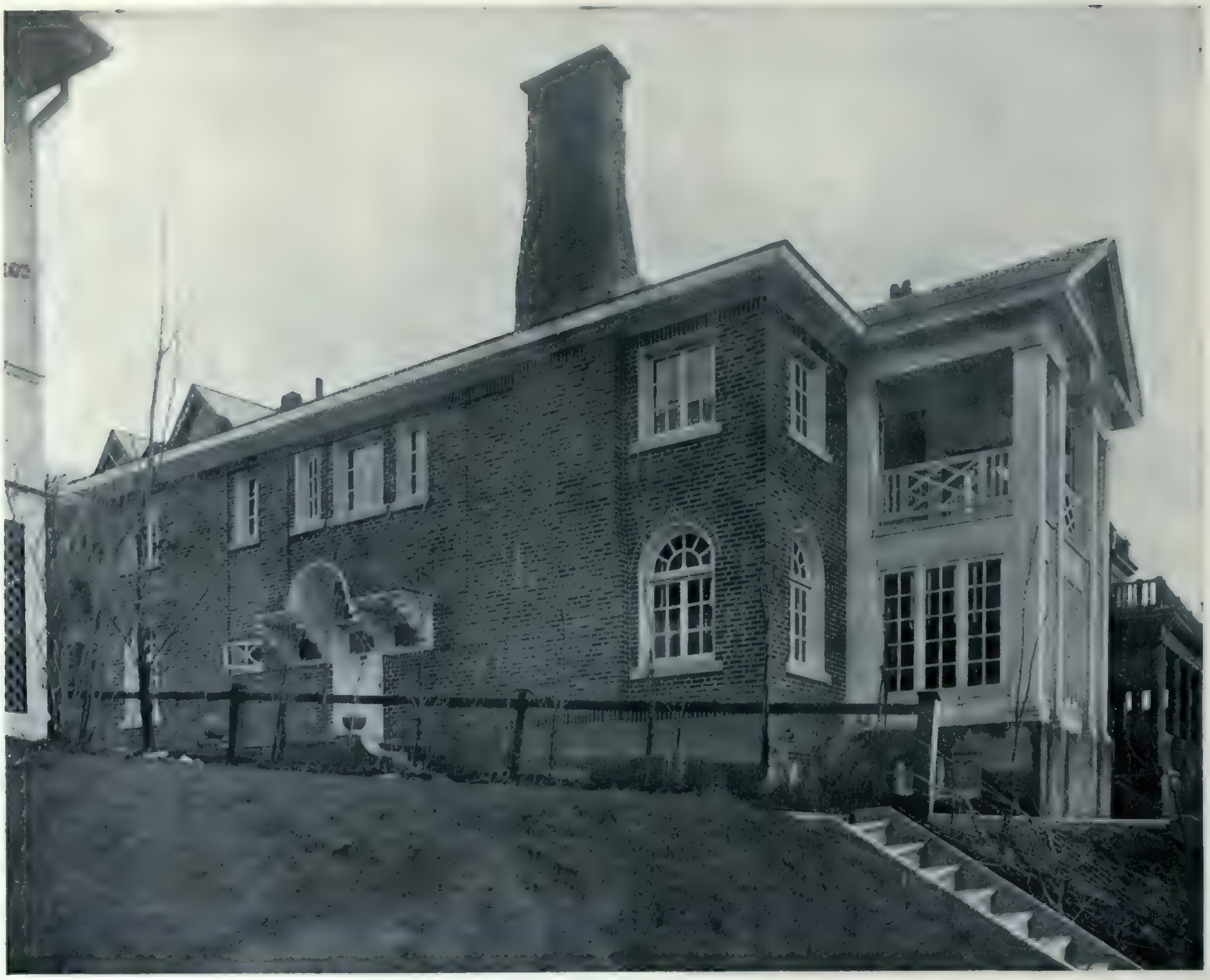


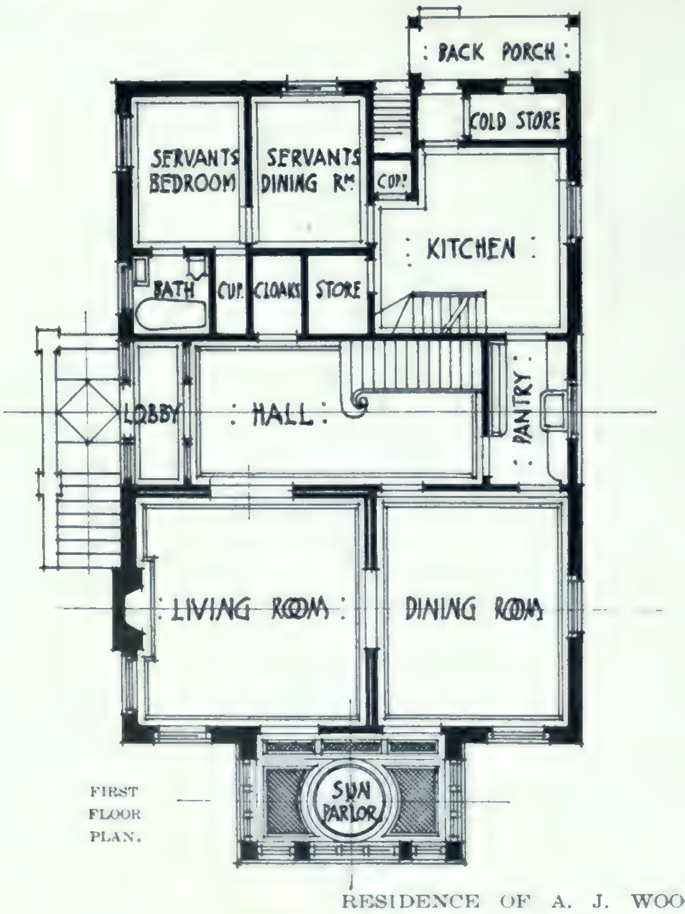
LIBRARY: RESIDENCE OF HON. MR. JUSTICE RIDDELL, TORONTO.

The main walls of the house are a combination of tapestry brick and terra cotta tile, while the floors are of wooden joist construction. The stone used on the exterior is Indiana lime stone.

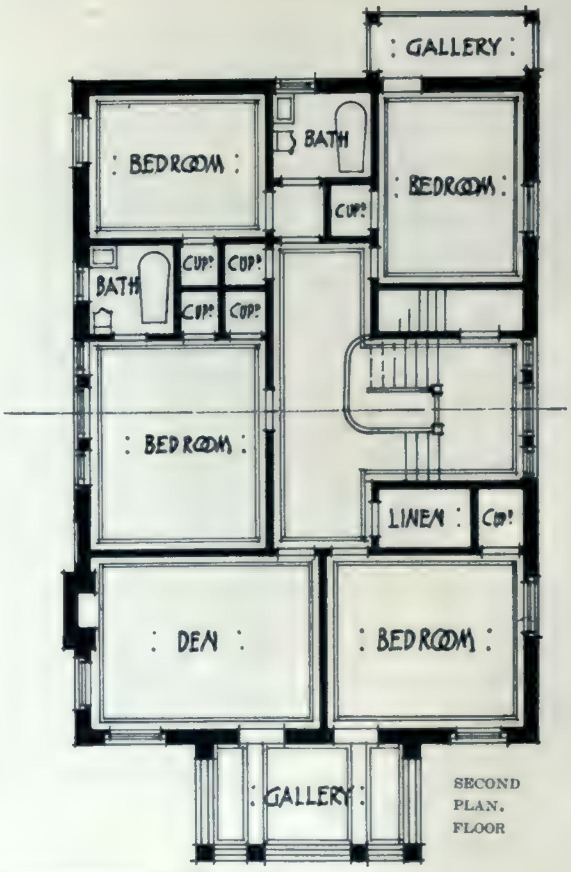
The interior wood work, with the exception of the living room, is finished in white pine enamelled in ivory. The living room has a pilaster wall treatment supporting a wooden cornice, the material being of oak and the intervening space between the pilasters is covered with grass cloth. The electric fixtures were made from designs by the architect and are suggestive of the days of coal oil lamps.

The main staircase is of pine with mahogany newels, rails and treads. The walls of the halls are covered with a very dark blue



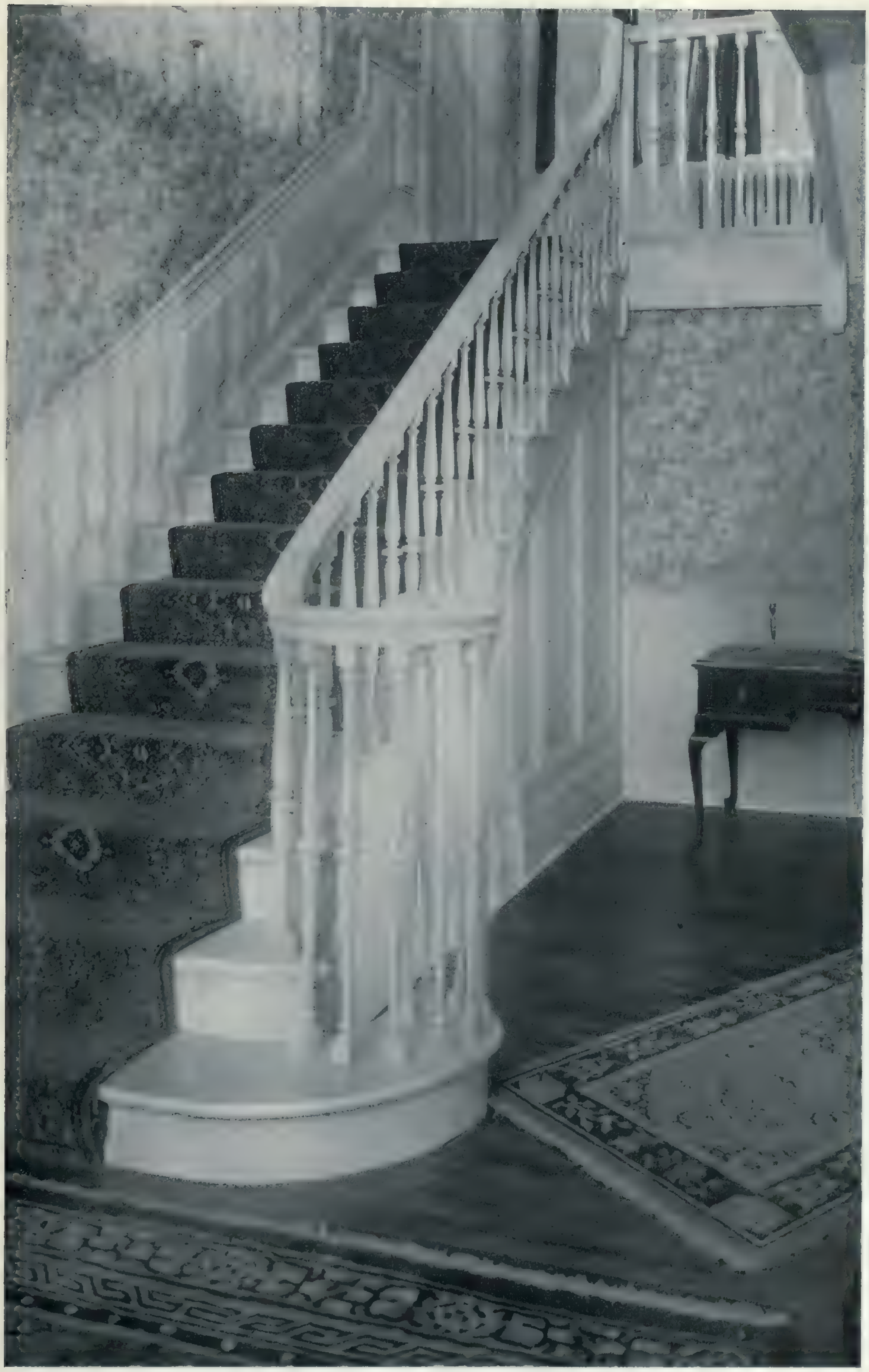


FIRST
FLOOR
PLAN.



SECOND
PLAN.
FLOOR

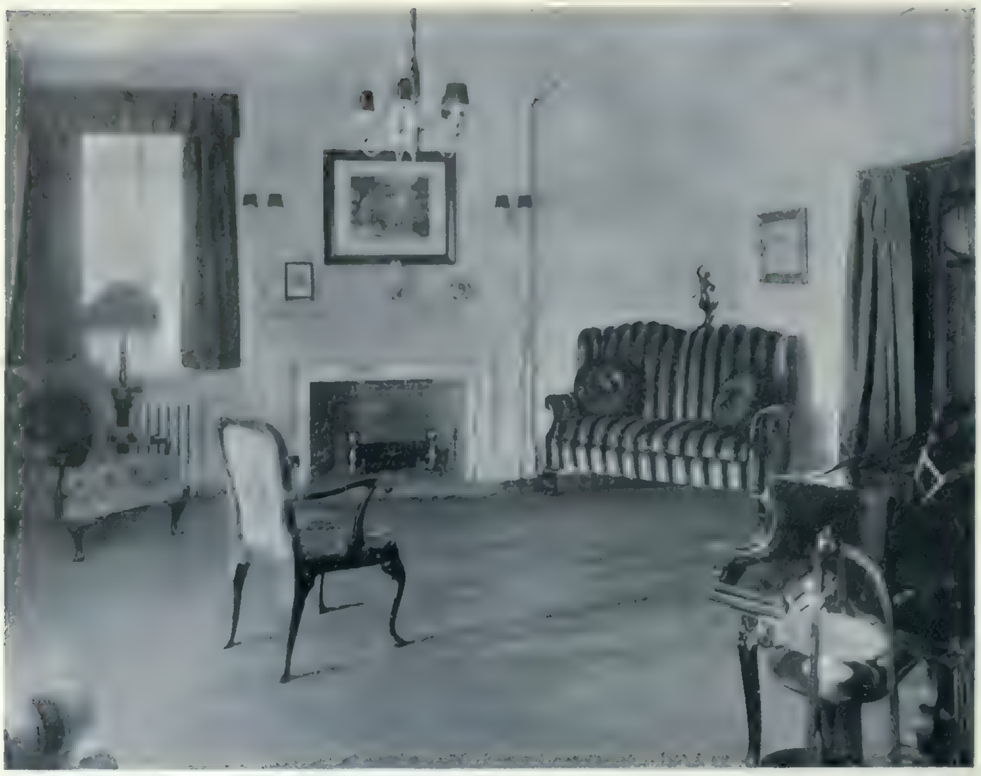
RESIDENCE OF A. J. WOOD, ESQ., WESTMOUNT, QUEBEC.
SEPTIMUS WARWICK, F.R.I.B.A., ARCHITECT.



STAIRCASE HALL.

RESIDENCE OF A. J. WOOD, ESQ., WESTMOUNT, QUEBEC.

SEPTIMUS WARWICK, F.R.I.B.A., ARCHITECT.



LIVING ROOM: RESIDENCE OF A. J. WOOD, ESQ., WESTMOUNT, QUE.

figured paper giving a good tone effect.

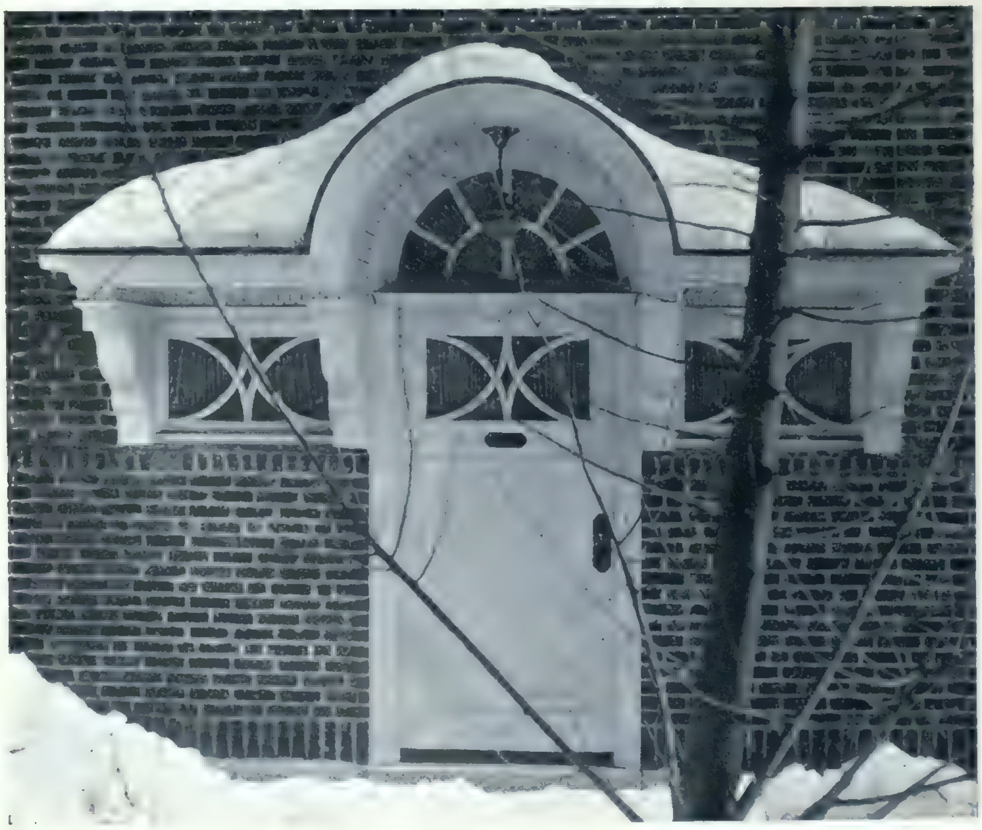
A silver grey scenic paper covers the walls in the dining room, the somewhat coolness of which is relieved by the ivory wood work and mahogany furniture.

The basement has a billiard room reached by a stair leading from the main hall. The design and plan of the house shows a symmetrical treatment and careful study as to arrangement, the porch being a specially noteworthy feature

INTERIORS: HON. MR. JUSTICE RIDDELL'S RESIDENCE, TORONTO.

The dining room, which has a southern and eastern aspect, is of ample size and of that proportion which permits of the entertainment of large dinner parties and yet is not uncomfortably large for the family use. Two doors for service from the pantries are provided, one for general use, and one for large parties, the latter one being fitted with a china cupboard in its thickness. The design is English Renaissance, the walls being carried out in selected African mahogany, the floor in marble mosaic, and the ceiling in ornamental plaster, painted. The fireplace is of Canadian marble with an English polished steel grate. The candelabra are of exquisitely wrought silver.

The library, which is directly above the dining room, is finished in quarter cut white oak, stained to a Flemish tone. The ceiling has a height of twenty feet, and the walls are fitted with oak shelving for an unusually large number of books.



DETAIL OF ENTRANCE: RESIDENCE OF A. J. WOOD, ESQ., WESTMOUNT, QUE.

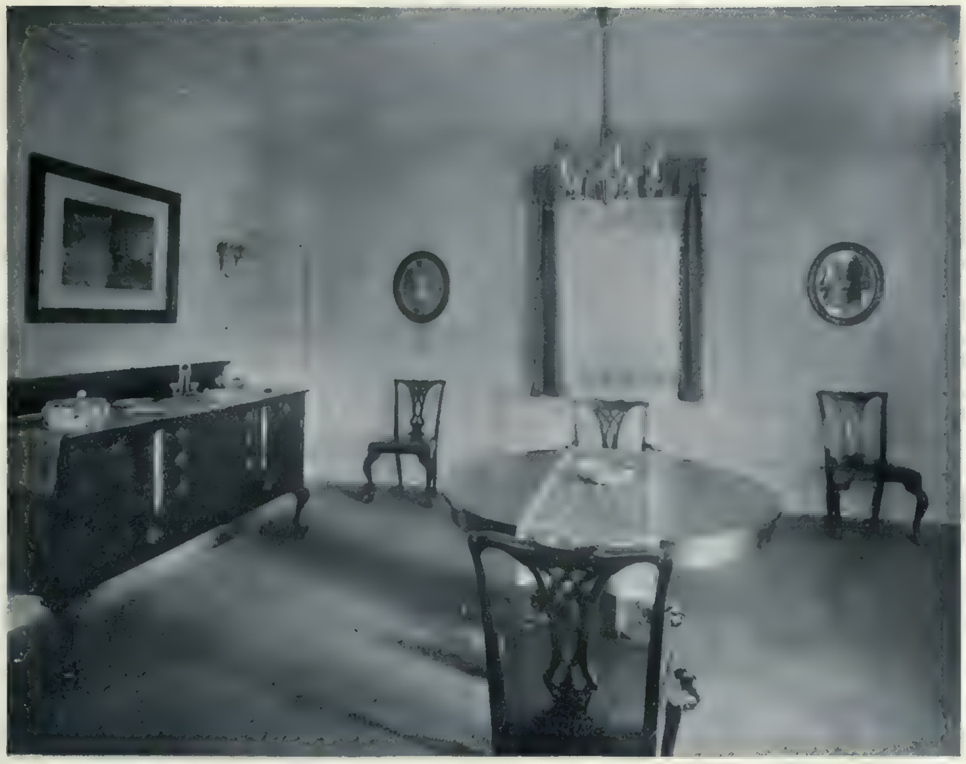
RESIDENCE OF ALEX. J. WOOD, ESQ., WESTMOUNT, QUE.

Placed on the upper level of the Westmount Boulevard the principal rooms of this house have a fine view overlooking the St. Lawrence River.

As the site was a long, narrow one, the entrance was planned on the centre of the side elevation with the living and dining room in front and the sun room arranged as a bay between these rooms. This bay, with a gallery over making the main feature of the front elevation. At the rear is placed the kitchen and offices and the maids' sitting room, bed room and bath room.

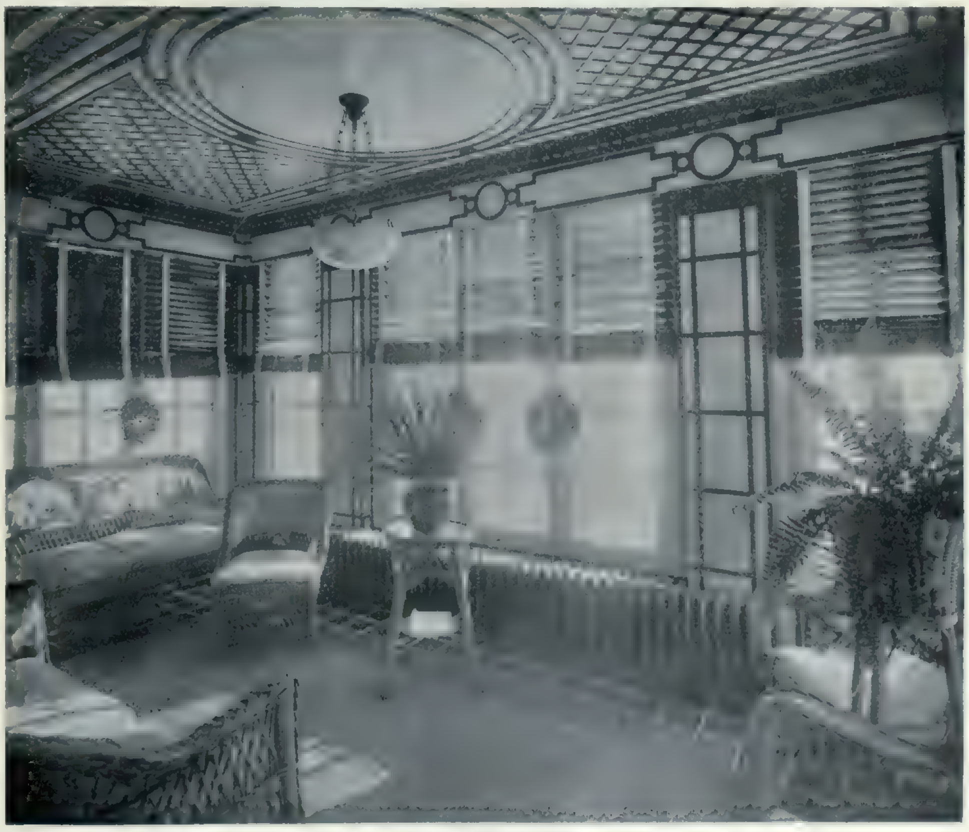
The accommodation upstairs consists of four bed rooms, two bath rooms and an upstairs sitting room.

A billiard room 33 x 18 ft. is planned in the basement with a large bay underneath the sun room.



DINING ROOM: RESIDENCE OF A. J. WOOD, ESQ., WESTMOUNT, QUE

The interior decoration and part of the furniture was designed by the architect, the two front rooms being treated with raised panels finished with cement and painted a light putty color, the ceilings are finished in old ivory. The living room has mulberry curtains and carpet and the dining room, which is communicating, has the same pattern for the hangings, but the color is a rich blue. The sun room is covered with trellis on the walls and the ceilings finished in a blue green with a straw and grey bordered matting of a coarse texture. The electric light fittings are finished with silver and black with shades the prevailing color of the rooms.



SUN ROOM: RESIDENCE OF A. J. WOOD, ESQ., WESTMOUNT, QUE.

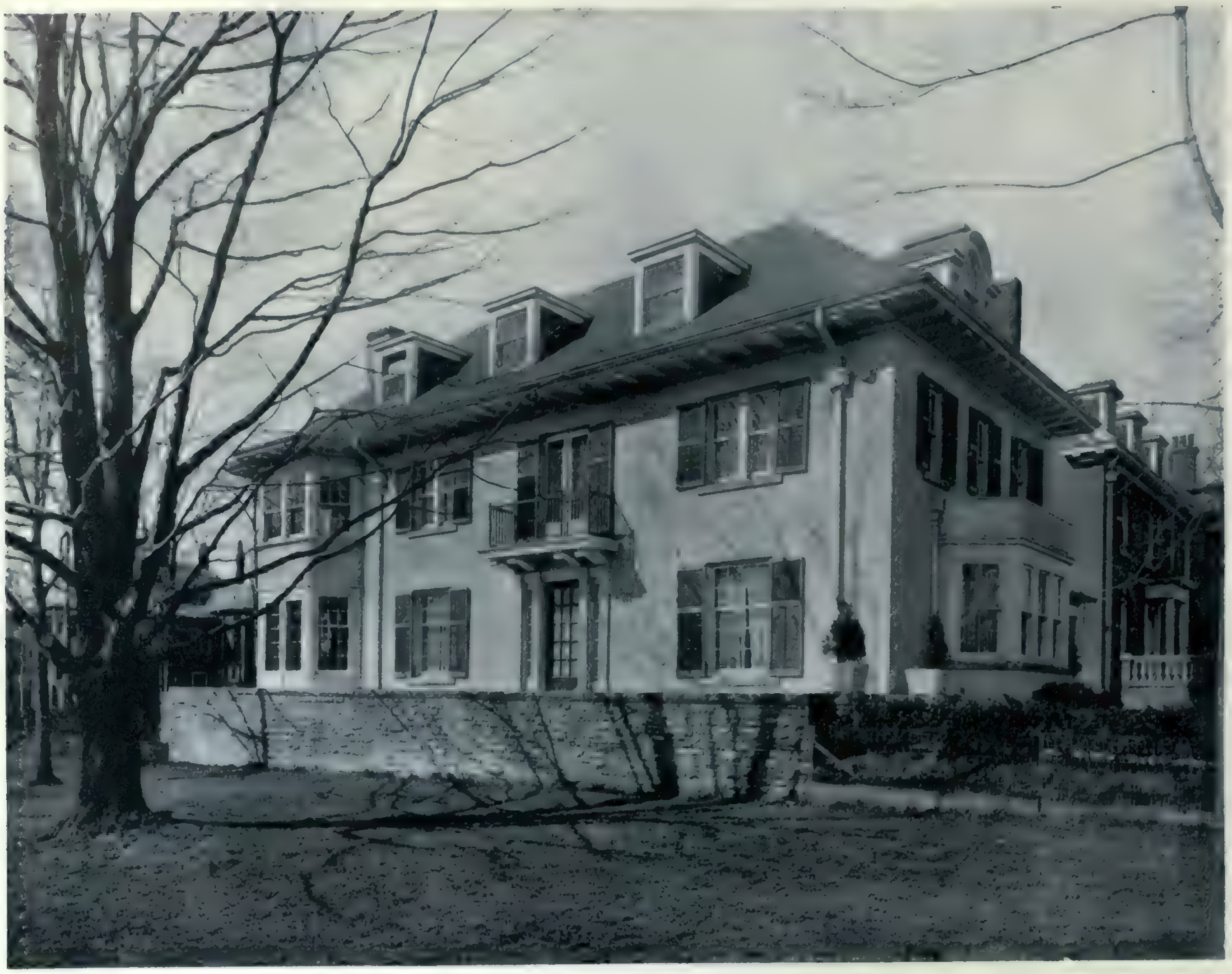
The hall and staircase is finished in white with a French grey wall paper.

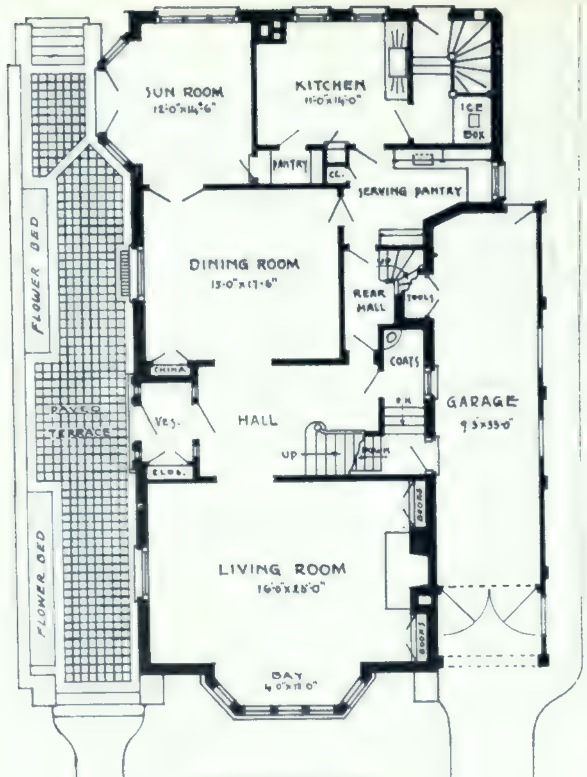
Residence on Douglas Drive, Toronto.

As an example of a recent development in residential architecture, which makes for domestic atmosphere and eliminates any suggestion for uneasy striving for originality, this subject is especially noteworthy.

Designed on semi-Colonial lines, it depends for effectiveness on its simplicity and restraint, due consideration having been given to color, texture and form; the treatment of the exterior in white stucco with green shutters and purple slate roof, all combining to make a harmonious setting in the surroundings. The main front and entrance overlooking the Government House grounds is featured by a tile paved terrace with attractively arranged flower beds.

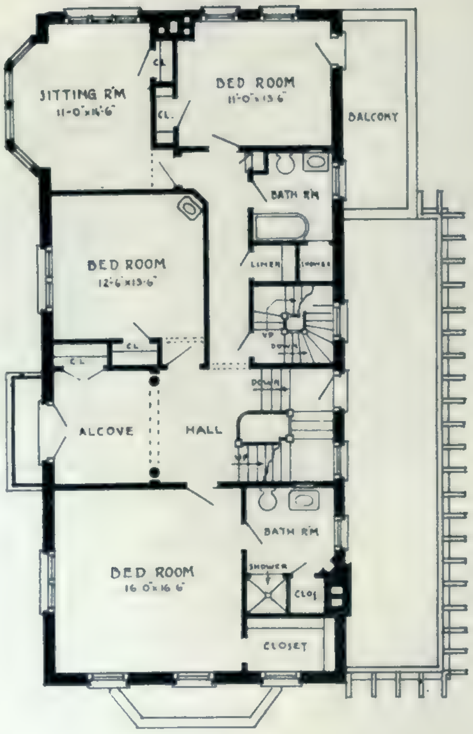
The arrangement of the interior, as seen by the plan, is in keeping with the exterior; the living room, hall, dining room, and sun room all opening up in an attractive manner. The





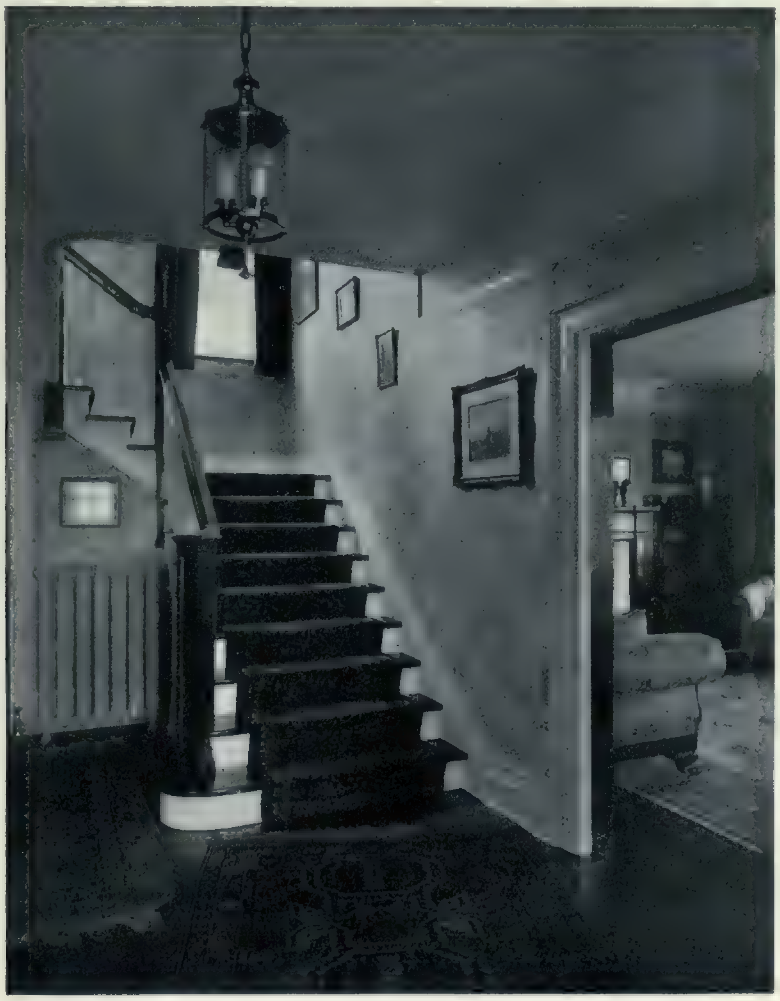
FIRST FLOOR PLAN.

HOUSE ON
DOUGLAS DRIVE,
TORONTO.



SECOND FLOOR PLAN.
BURKE, HORWOOD & WHITE, ARCHITECTS.

location of the garage on the west side, and attached to the house, has been treated with trellis to give rather a pergola effect, thus solving a difficult problem, and making a very practical arrangement. The main hall and dining room are finished in white enamel, the latter having a wood dado six feet high. The fireplace and bookcases are features of the living room, which is finished in mahogany; the sun room, on the main floor, is finished in white enamel, with outlook to the south and east, and is so situated in its relation to the dining room and kitchen that it can be used as a breakfast or tea room. The bed rooms are large and well appointed, being finished in white with mahogany doors. All bath rooms have tile floors and wainscoats, and the owner's bath room has shower attached.


STAIR HALL, HOUSE ON DOUGLAS DRIVE, TORONTO.

BURKE, HORWOOD & WHITE, ARCHITECTS.

The house has hardwood floors throughout, and is heated by hot water from a gas furnace automatically operated.

One may appropriately subjoin to the foregoing a recent observation by William Dunn, an English contemporary, who is at present at work solving some of the domestic problems of Great Britain. "The days," he says, "are happily past when we are asked, 'In what style is this building?' " To this he adds: "Architecture is not a thing of mode; it is false if it tricks out its works with the garments of another age. The Early English church, the Tudor cottage, the Jacobean house, as built in Victorian days, were essentially false, and foredoomed to failure. The controlling factor in the design of any building is the plan, and not even the wildest enthusiast would dream of reverting to the plan of the mediæval house or cottage. If we have higher ideals of home life and correspondingly higher and more complex requirements in planning, these must have the most important effect on the exterior—on the *style* of the design. Our task is to give the needs and the ideals of our time embodiment in our buildings—the best expression in the language of our day. No author clothes his thoughts, conditions as they are by latter-day knowledge, in the language of Chaucer or Spenser. His language is certainly based on and derived from the early writers. So it is with the expression of our works as architects. *Our* language is based on the language of William of Wykeham, of John Thorpe, and of our forbears; but it would be ridiculous affectation to use their speech or strut about in their clothes. . . . We have so to contrive our design that they may satisfy and afford the decencies and the graces of life. To the

LIVING ROOM: HOUSE ON DOUGLAS DRIVE, TORONTO. BURKE, HORWOOD AND WHITE, ARCHITECTS.

material requirements of health and bodily comfort and convenience we have to add such pleasures as can be got from the eye, through which we appeal to the mind and heart; variety in plan of appearance; proportion, mass, and grouping, and all those elements of design which are as undefinable as the pleasing elements in poetry or music.

"The man who has a home, not as one of hundreds in a mean, unlovely street, but with something of homelike qualities, may be expected to feel that he has something to fight for. On a fine old house in Stirling I saw an inscription which, if my memory is correct, ran thus :

'I pray who look upon this lodging
In gentleness to be your judging.'

The sentiment appeals to one very strongly, knowing the difference there always is between our aim and our attainment."

◆

British Industries Fair

The British Industries Fair, to be held in 1920, will be limited to firms whose works and head offices are situated within the British Empire, and which are not controlled by foreign interests. In other words, as regards Canada, only such manufacturers as come within this definition will be eligible to exhibit. The fair will be held simultaneously in three different cities—London, Birmingham and Glasgow—representing three distinct sections, grouping various industries. Attention is drawn to the fact that these industrial fairs are not exhibits, but trade fairs, to which admittance is restricted to *bona-fide* buyers, seriously interested in the participating trades, and that admission is by invitation only, the general public being excluded. A preliminary event open this year for a period of eleven days drew an attendance of 17,600, and resulted in the placing of orders amounting close on to $10,000,000, thus indicating the importance of the Trade Fair for which arrangements are now being made. Canadian manufacturers who are desirous of securing exhibit space or more complete particulars should communicate at once with the following British Government Trade Commissioners: G. T. Milne, O.B.E., 367 Beaver Hall Square, Montreal; F. W. Field, 260 Confederation Life Building, Toronto, and L. B. Beale, 610 Electric

DINING ROOM: HOUSE ON DOUGLAS DRIVE, TORONTO. BURKE, HORWOOD & WHITE, ARCHITECTS.

Railway Chambers, Winnipeg. It is necessary that all applications from Canada should be in London in the comparatively near future.

◆

Proper "Heating" Terms?

A correspondent writing to the "Heating and Ventilating Magazine," objects to the term "hot water heating," stating that there is no more reason why it should be used than the term "hot steam heating." It does seem somewhat superlative when one comes to think of it, but as our contemporary points out, it is always a difficult matter to root up established usages in any field. Nevertheless, it adds that in the matter of engineering and trade terms it appears that the heating industry has gone out of its way to select those that are either misnomers or are at least redundant in their meaning. The word radiator is given as a case in point, the statement being made that if we had to depend on the radiant action of the so-called radiator, we should soon freeze to death, although the dictionary gives it as a correct and properly understood term with a meaning which should justify its continuance in usage. Pursuing his subject, the writer points out that "hot blast heating" is of more recent growth and that it is gratifying to find this term has already given way in many quarters to "blast heating." "Furnaces" long since became "hot air furnaces" to distinguish them from other kinds used in power work, and a further refinement, among those accustomed to accurate expressions, is the expression "warm air heaters." There is, perhaps, some excuse for this distinction, although to be entirely logical, it is presumed that "air heaters" should be the proper phrase.

◆

Acceleration of Concrete Hardening

As the result of some experiments made by the U. S. Bureau of Standards to develop a method to accelerate the rate at which concrete increases in strength with age, it was found that the addition of small quantities of calcium chloride to the mixing water gave the most effective results. A comprehensive series of tests was inaugurated to determine further the amount of acceleration in the strength of concrete obtained in this manner, and to study the

GATE LODGE AT "HALTONBROOK," OAKVILLE, ONT., FOR CAPT. ELLSWORTH FLAVELLE. WICKSON & GREGG, ARCHITECTS.

effect of such additions on the durability of concrete and the effect of the addition of this salt on the liability to corrosion of iron or steel embedded in mortar or concrete. The results to date indicate that in concrete at the age of two or three days the addition of calcium chloride up to 10 per cent. by weight of water to the mixing water results in an increase of strength over similar concrete gauged with plain water, of from 30 to 100 per cent., the best results being obtained when the gauging water contains from 4 to 6 per cent. of calcium chloride.

Compressive strength tests of concretes gauged with water containing up to 10 per cent. of calcium chloride, at the age of one year, give no indication that the addition of this salt has had deleterious effect on the durability of the concrete.

◆

Unburnt Bricks for Building

Germany's state of economic distress affects that country in many ways. One of her present predicaments is a lack of coal, together with disorganized transport facilities. Because of this the brick-kilns cannot reckon on a coal supply for some time, and this is causing great difficulties in the provision of new dwelling-houses. In order to restart the building trade, and leave no means untried of furthering housing, the State Commissioner for Housing lately invited a number of experts of the clay industry, and representatives of the brick-kiln trade, to a conference, to consider the suitability of unburnt clay bricks as building material. It was the general opinion of the experts that, provided suitable kinds of clay were used, unburnt bricks were capable of resisting the weather, and were, from a technical and constructive point of view, quite unobjectionable material for small houses in rural districts. It is recommended that the necessary plant be erected in the neighborhood of building sites where supplies of suitable clay are available, in order to prepare unburnt clay bricks, which, after four to six weeks' drying in the open air, are ready for building purposes.

◆

Resumes Professional Practice

Major H. E. Gates, who has been with His Majesty's Canadian forces since the outbreak of the war, has been relieved from active service duties and has again resumed architectural practice at Halifax, N.S.

◆

Gilbert J. P. Jacques has re-opened his office for architectural practice in the Medbury Block, Windsor, Ontario, and desires catalogues and samples from manufacturers.

CONSTRUCTION

A · JOURNAL · FOR · THE ARCHITECTURAL
ENGINEERING · AND · CONTRACTING
INTERESTS · OF · CANADA

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Corner Richmond and Sheppard Streets.
TORONTO - - - - CANADA

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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

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Vol. XII Toronto, June, 1919 No. 6

Toronto School Work

As the immediate programme of the City of Toronto provides for the erection of important additions to a large number of existing school buildings, the decision of the Board of Education to divide this work among a number of local architects is certainly to be commended as both a desirable and important change of policy. There is no doubt that it will lead to a better class of architecture in regard to Toronto's educational buildings. One thing certain is that the method of erecting buildings by the Board's own Property Department has proven unsatisfactory. Likewise the recent competition for the erection of two new schools failed in getting the results desired, not so much perhaps in the character of the designs submitted as in a refusal of many of the architects to participate. In connection with the recent meeting bringing about this latest change it must be said that there were indications that certain trustees tried hard to maintain the existing order of things, or else perhaps to shape a policy of their own. Charges were made that architects had been soliciting the members, but nothing was established to show that there were any surreptitious dealings. Any approach of this kind as we understand it was in the interest of architects who recently returned from overseas and was not made by them personally. To say that the architects refused to enter the above mentioned competition because they could not dictate to the Board, if one of the trustees is correctly quoted, is greatly at variance with facts of the case. Indeed it is on a par in this respect with another unsupported statement made at the time evidently bearing on the question of resident and non-resident designers, to the effect that "it is a peculiar thing that our Canadian architects can go down to the States and build many of the great buildings in New York and other cities, and when a man comes here from the States we refuse him work on that account." It is quite evident that in either case there is some one on the Board who is badly informed. The reason why members of the profession stayed out of the competition was based on a principle that the architectural bodies of both Canada and other countries have supported for a number of years, namely, that such competitions should be conducted by qualified professional assessors. That was the one and only reason and merely represented a necessary condition to assure competency and fairness in judging the designs and making the award. As to Canadian architects designing many of the great buildings in New York and other American cities, well, all that we can say is that to identify them might prove a somewhat difficult task. If a "little more reciprocity" might help, as suggested, it might at least even up a one-sided advantage such as has existed up to the present. Altogether the Board is to be congratulated in seeking an intelligent solution of its problems, and the discussion will have a tendency to clear up much misunderstanding and to bring about a better appreciation of school architecture and as to who is best qualified to do the work.

◆

Building More Active

Building activities in the United States have shown a steady increase since the signing of the armistice and the volume of work now being carried out is about 70 per cent. ahead of this time last year. In Canada the total increase can be estimated as approximate to this gain, and would undoubtedly be still greater if existing labor troubles were settled. Many architects are busier than they have been at any time during the past four years and prospects in general point to a vastly improved condition.

Personal Items

William Lyon Somerville, architect, formerly partner in the firm of Murphy & Dana of New York City, has opened an office for practice in the Imperial Bank Building, corner of Yonge and Bloor streets, Toronto.

◆

W. & Walter R. L. Blackwell, architects, Peterboro, Ont., have removed their office to the Bank of Commerce Building, corner of Hunter and Water streets. Walter R. L. Blackwell recently returned from New York, where, until joining the army, he was in charge of the office of a prominent local architect. He studied architecture at Toronto University and at the Columbia University, New York City.

The Canadian Mathews Gravity Carrier Company, manufacturers of gravity carriers, conveyers, spirals, chutes and automatic elevators, have removed their plant and head office from Toronto to Port Hope, Ont.

◆

The Canadian Crushed Stone Company, of Dundas, Ont., has opened a Toronto office at 409 McKinnon Building, in charge of Capt. J. Ridley Wylie, who is well-known in military and business circles.

◆

CONTRACTORSand SUB-CONTRACTORS

As Supplied by the Architects of Buildings Featured in This Issue.

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Brick, Milton Pressed Brick Company.
Boilers, Spencer (installed by Adam Clark).
Electric Fixtures, Tallman Brass & Metal Company.
Floring, Oliver J. Jarvis.
Hollow Tiles, Dennison Interlocking Company.
Mantels, Kent-Garvin Company.
Vacuum Cleaners, United Electric Company.

HOUSE AT LONSDALE AVENUE AND DUNVEGAN ROAD, TORONTO.

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Carpentry, E. E. Woodley.
Cut Stone, Witchall & Son.
Plumbing, Bennett & Wright.
Heating, Joseph Harrison.
Roofing, George A. Bryan.
Plastering, T. Gander & Son.
Marble and Tile, Italian Mosaic & Marble Company; J. L. Vokes & Son.

Metal Stripping, S. L. Hammond.
Painting and Glazing, Hughes & Co.
Electric Wiring, McDonald & Willson.
Leaded Glass, McCausland.
Bronze Work, Aikenhead Architectural Bronze Company.
Hardware, Aikenhead Hardware Company.
Landscape Work, Harries & Hall.

CONTRACTOR FOR HOUSES IN CEDARVALE (TORONTO).

H. B. Taber, General Contractor.

RESIDENCE OF R. S. M'LAUGHLIN, ESQ., OSHAWA, ONT

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Boilers, Kewanee Boiler Company.
Brick, Don Valley Brick Company.
Bowling Alley, Brunswick-Balke-Collender Company.
Carpenter, Dickie Construction Company.
Composition Ornaments, McCormack & Carroll.
Electric Fixtures, Robert Mitchell Company.
Electric Contractor, George J. Beattie.
Elevator, Otis-Fensom Company.
Flooring, Seaman-Kent Company.
General Contractor, Dickie Construction Company.
Greenhouses, King Construction Company.
Hardware, Aikenhead Hardware Company.
Heating Contractors, Purdy-Mansell, Ltd.
Hollow Tile, Sun Brick Company.
Iron Fencing, Robert Mitchell Company.
Interior Woodwork, Batts, Ltd.
Mantels, J. L. Vokes & Son.
Marble and Tile, Vermont Marble Company; Canada Glass C
Ornamental Iron, Architectural Bronze & Iron Company.
Ornamental Iron, Canadian Ornamental Iron Company.
Painting and Decorating, W. H. Patte.
Plastering, R. C. Dancy.
Plumbing Contractors, Purdy-Mansell Company.
Parquette Floors, G. W. Koch.
Radiators, Dominion Radiator Company.
Roofing, George Duthie & Son.
Stone, Nicholson & Curtis.
Structural Steel, uBrlington Steel Company.
Stable Fittings, Beatty Bros.
Stucco Work, Burns Cement Gun Construction Company.
Swimming Pool (cork tiling), David E. Kennedy (Inc.).
Pumps, National Equipment Company.
Vacuum Cleaner, United Electric Company.
Conduits, Conduits, Ltd.

RESIDENCE, DOUGLAS DRIVE, TORONTO.

Masonry and Carpenter Work, Walter Davidson.
Plastering, Taylor & Nesbit.
Plumbing and Heating, Sheppard & Abbott.
Sheet Metal and Roofing, Douglas Bros.
Electric Wiring, H. J. Ferguson.
Painting and Glazing, F. G. Roberts & Company.

A. J. WOOD'S RESIDENCE, WESTMOUNT, QUE.

General Contractors, Anglin, Ltd.
Brick, David McGill.
Fireplaces, G. R. Locker Company.
Furniture, Henry Morgan & Company; Murray-Kay, Ltd.; G. A. Holland & Son.
Lighting Fixtures, Robert Mitchell & Company.
Painting, Henry Morgan.

MR. JUSTICE RIDDELL'S RESIDENCE, TORONTO.

Woodwork, J. C. Scott, Ltd.
Plastering, W. J. Hynes, Ltd.
Marble, Hoidge Marble Company.
Hardware, Aikenhead Company.
Painting and Decorating, J. McCausland & Son.
Lighting Fixtures, The Bromsgrove Guild.

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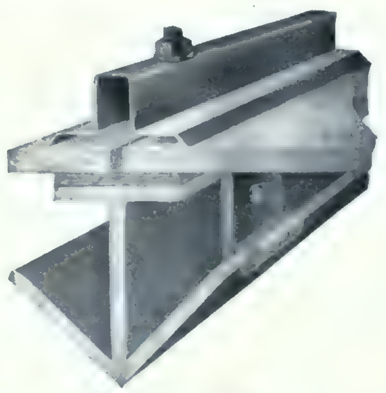

Section of Bar

Anchor Bar Skylights

are designed for large areas where the bar length exceeds eight feet. The structural parts being of rolled steel and the trim of sheet metal (generally copper) forms a combination which cannot be surpassed, to wit: steel for strength, copper for weather protection.

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CONSTRUCTION

July, 1919 Volume XII, No. 7

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NEW DORMITORY BUILDING, APPLEBY SCHOOL, OAKVILLE, ONT..... 194

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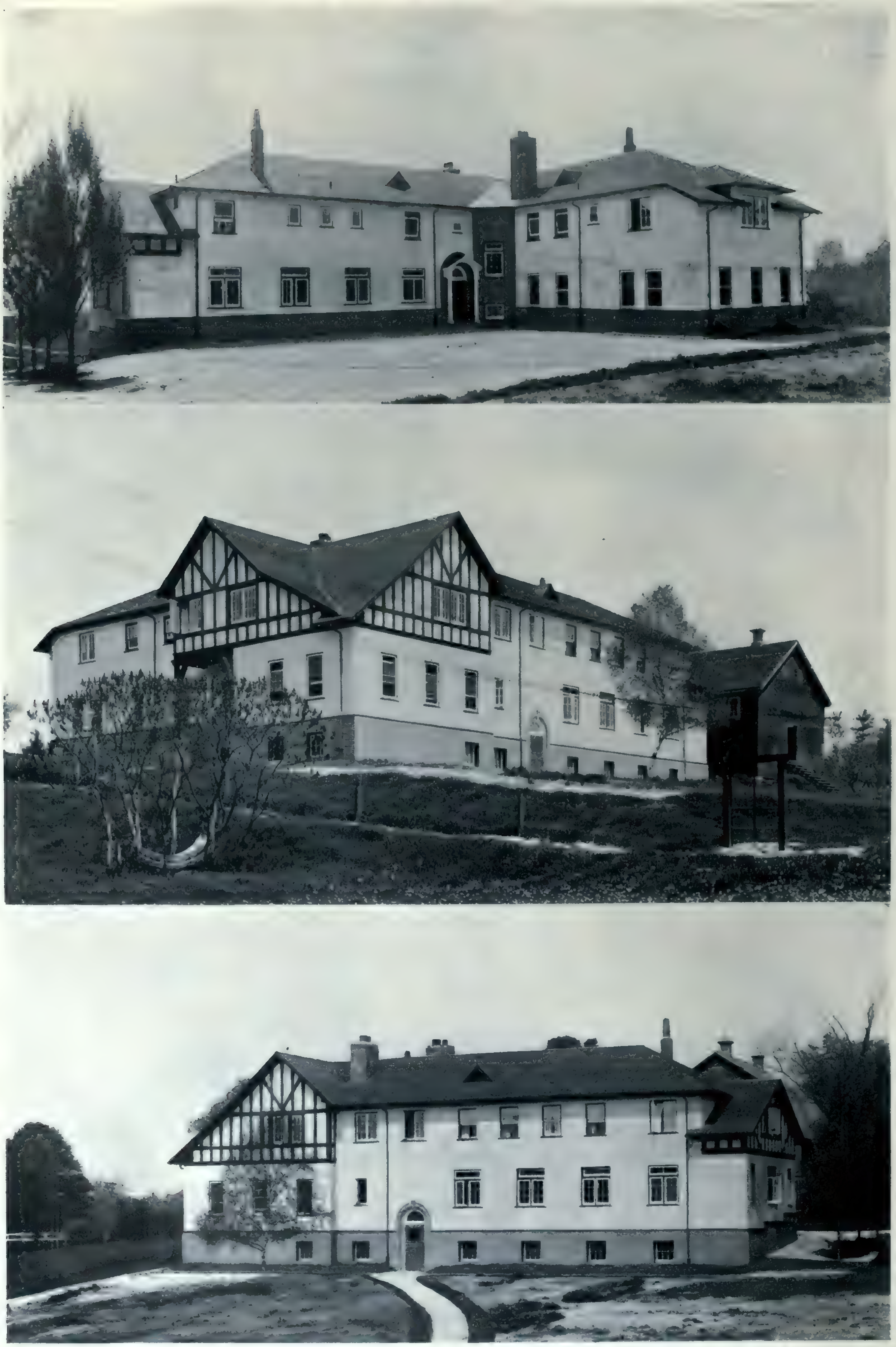
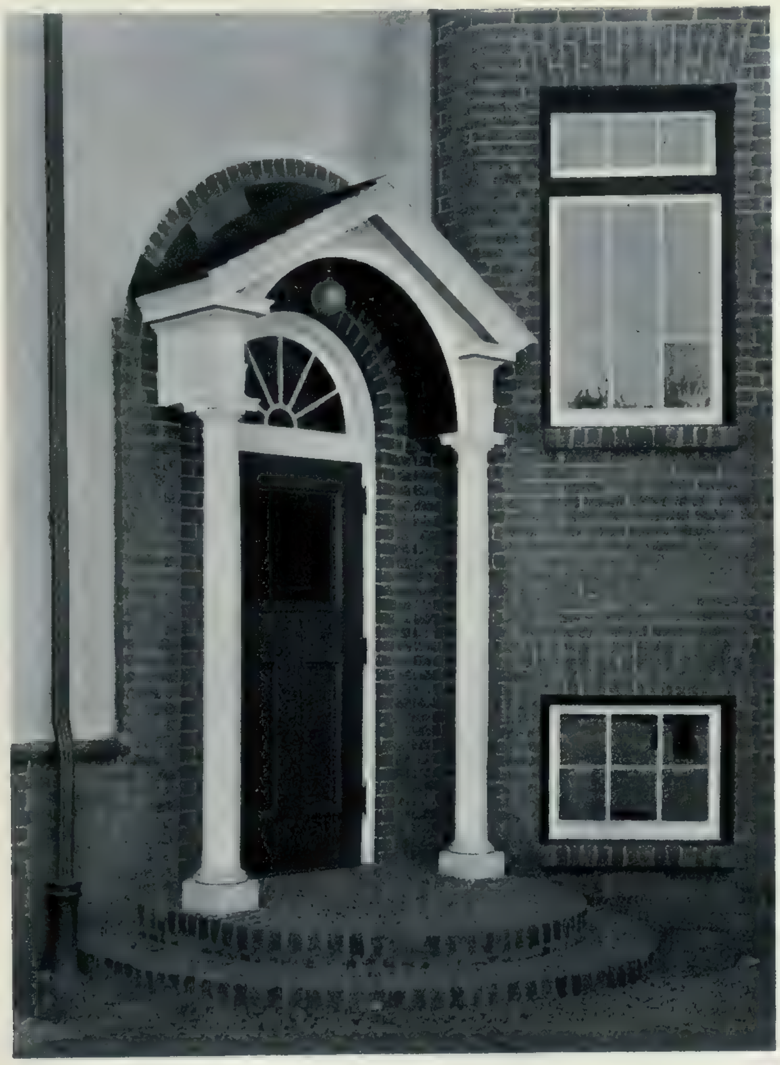


NEW DORMITORY BUILDING, APPLEBY SCHOOL, OAKVILLE, ONT.
SHEPARD & CALVIN, ARCHITECTS.

New Dormitory, Appleby School, Oakville, Ont.

APPLEBY School was founded in 1911 by Sir Edmund Walker, but in Sept., 1917, the control was vested in a Board of Governors. At present there are seventy-one boys in residence, forty being accommodated in the main structure and thirty-one in the new dormitory illustrated herewith. The buildings are located on the shore of Lake Ontario, one and a half miles west of Oakville, on grounds thirty-three acres in extent. The new dormitory, which stands high, overlooking the lake to the south-west, consists of two wings, joining to form an "L" shape. It will be noted from the plan that all the boys—thirteen in single rooms and eighteen in a large dormitory—sleep on the ground floor. Every boy has his own individual basin with hot and cold running water. In addition to immediate dormitory accommodations, the basement, besides the usual boiler room and coal space, has a specially arranged storeroom for the boys' trunks and lockers. All the stairs are of concrete enclosed in brick walls, the construction of the building in general being of frame, with stucco exterior on metal lath and solid brick basement walls.



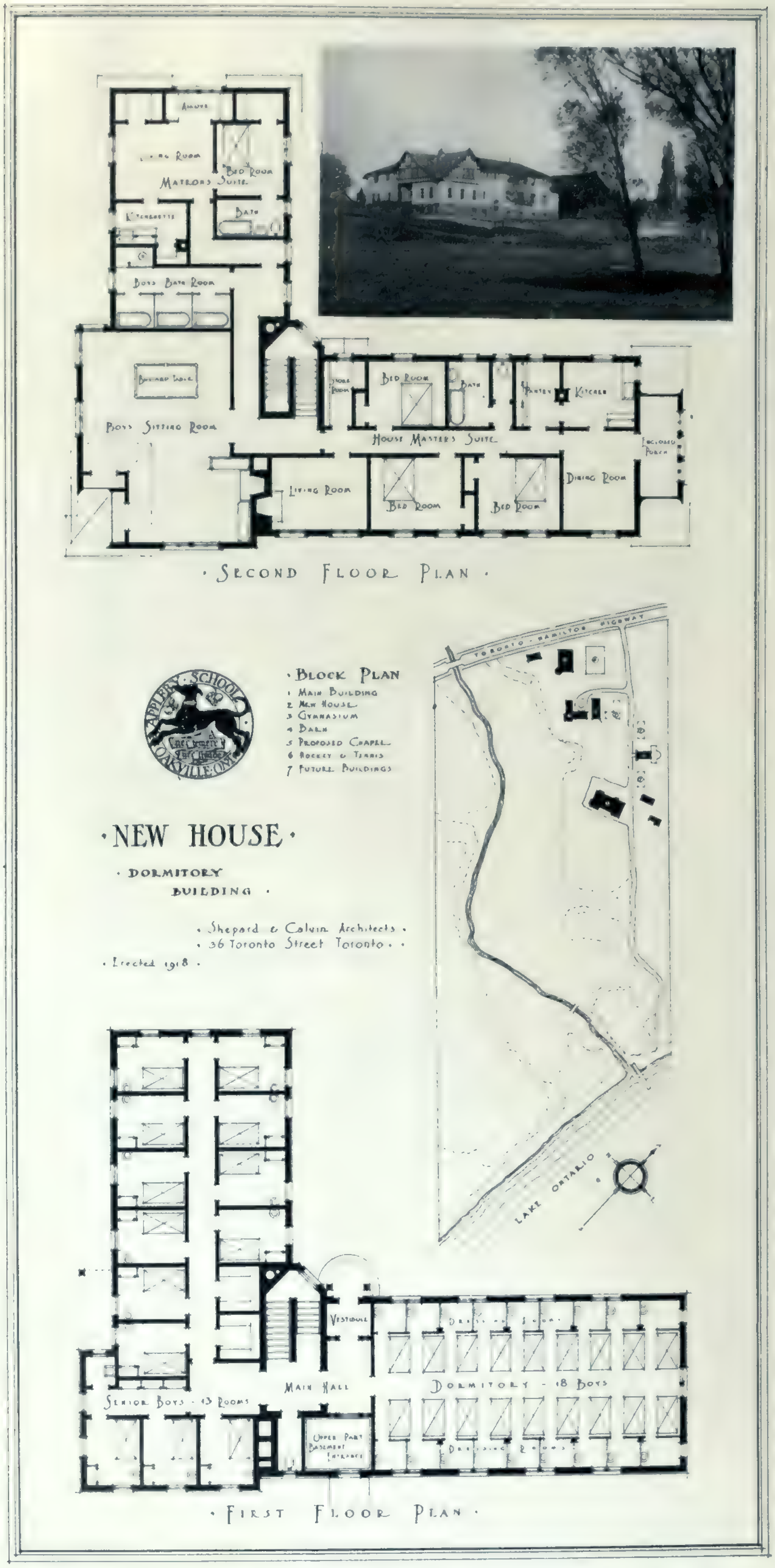
DETAIL OF ENTRANCE.

SHEPARD & CALVIN ARCHITECTS.

Heating is by low pressure steam, and the water supply is derived from a pumping station on the premises situated on the lake shore, the water being pumped to a large storage tank in the roof space of the building. There is also a septic tank and a disposal bed which take care of all sewerage on the premises. Electric light and power for the buildings is obtained from a connection off of one of the main transmission lines passing through the neighborhood. Within the new building the lighting is controlled from the Master's suite. The top floor contains the boys' bathrooms and a large sitting room with open fireplace and billiard table for the boys' use. Besides this, there are two apartments, one for the Matron of the school and the other for a married House Master.

The building is quite simply finished both inside and out. The boys' rooms and corridors have panelled dado of softwood, the floors are covered with linoleum and the interior woodwork has a painted finish. The outside is stained brown on the timber work and green on the shingled roof.

It is the intention to gradually extend the



NEW DORMITORY BUILDING, APPLEBY SCHOOL, OAKVILLE, ONT.

SHEPARD & CALVIN, ARCHITECTS.

SITTING ROOM, NEW DORMITORY BUILDING, APPLEBY SCHOOL, OAKVILLE, ONT.

style of the exterior of this building until all the buildings in the group are more or less of the same type. The next building to be erected will be a Memorial Chapel, illustrated herewith from the architects' perspective drawing, in memory of the Appleby boys killed in the Great War. The exterior of the Chapel shows the development of this policy of stucco and timber exteriors.

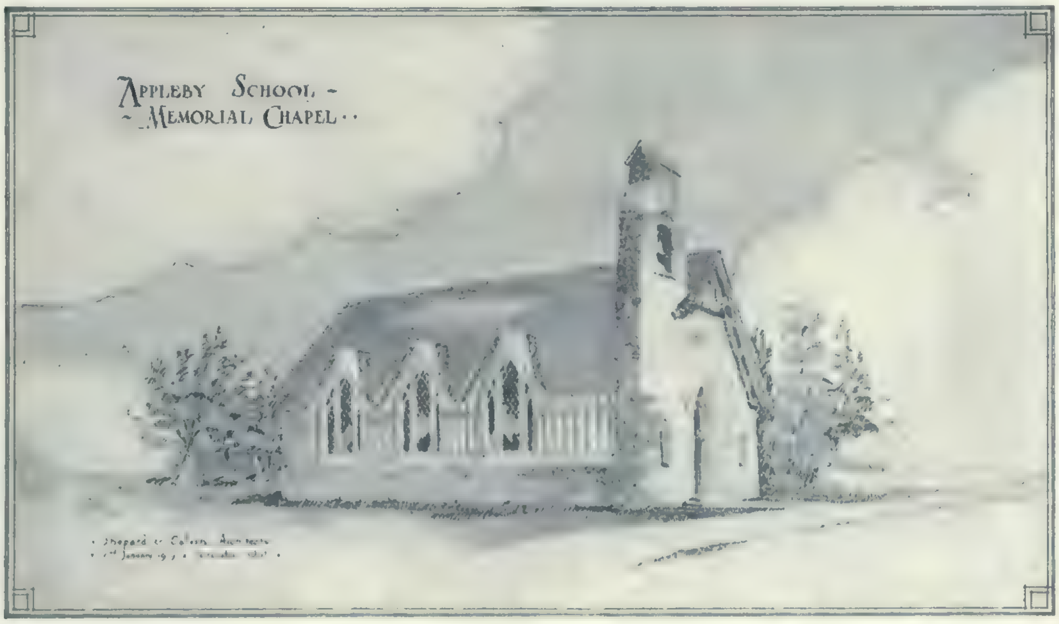
The new dormitory was completed in six months' time—April to September, 1918—and cost 29.24 cents per cubic foot for the building itself, and 30.35 cents inclusive of electric fixtures, linoleum, etc.

Soldiers' Graves and War Memorials

Supplementary estimates introduced by Sir Thomas White in the House of Commons include an item of $500,000 to provide for Canada's share of the expenditure to be made by the Imperial War Graves Commission. An additional item of $500,000 is also provided for battlefield memorials in Belgium and France.

◆

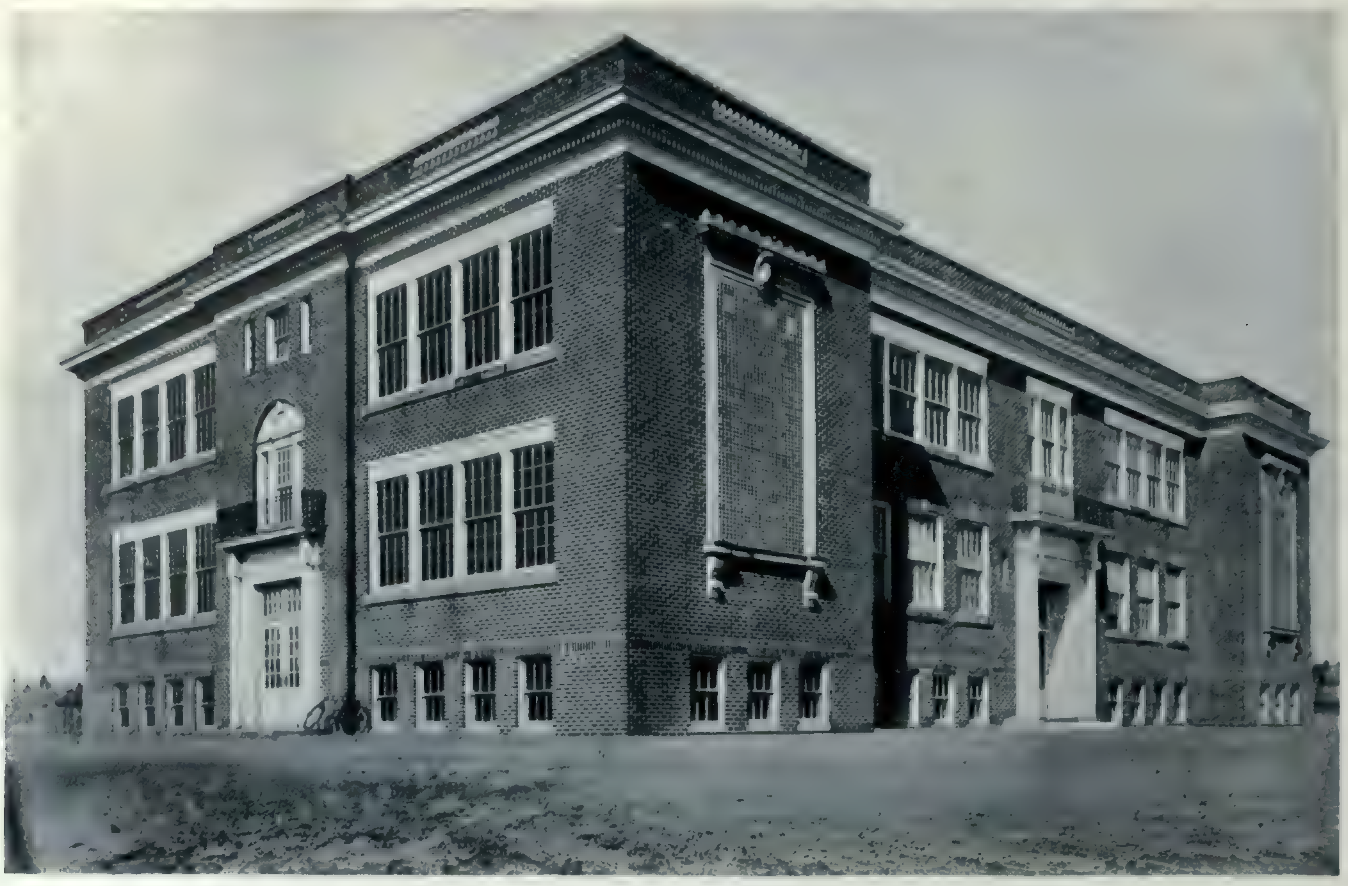
Liberals in recent caucus at Ottawa discussed the erection of a monument in honor of the memory of the late Sir Wilfrid Laurier. The proposed memorial will be apart from the statue to be erected on Parliament Hill, for which there was a vote of twenty-five thousand dollars in the estimates this session.



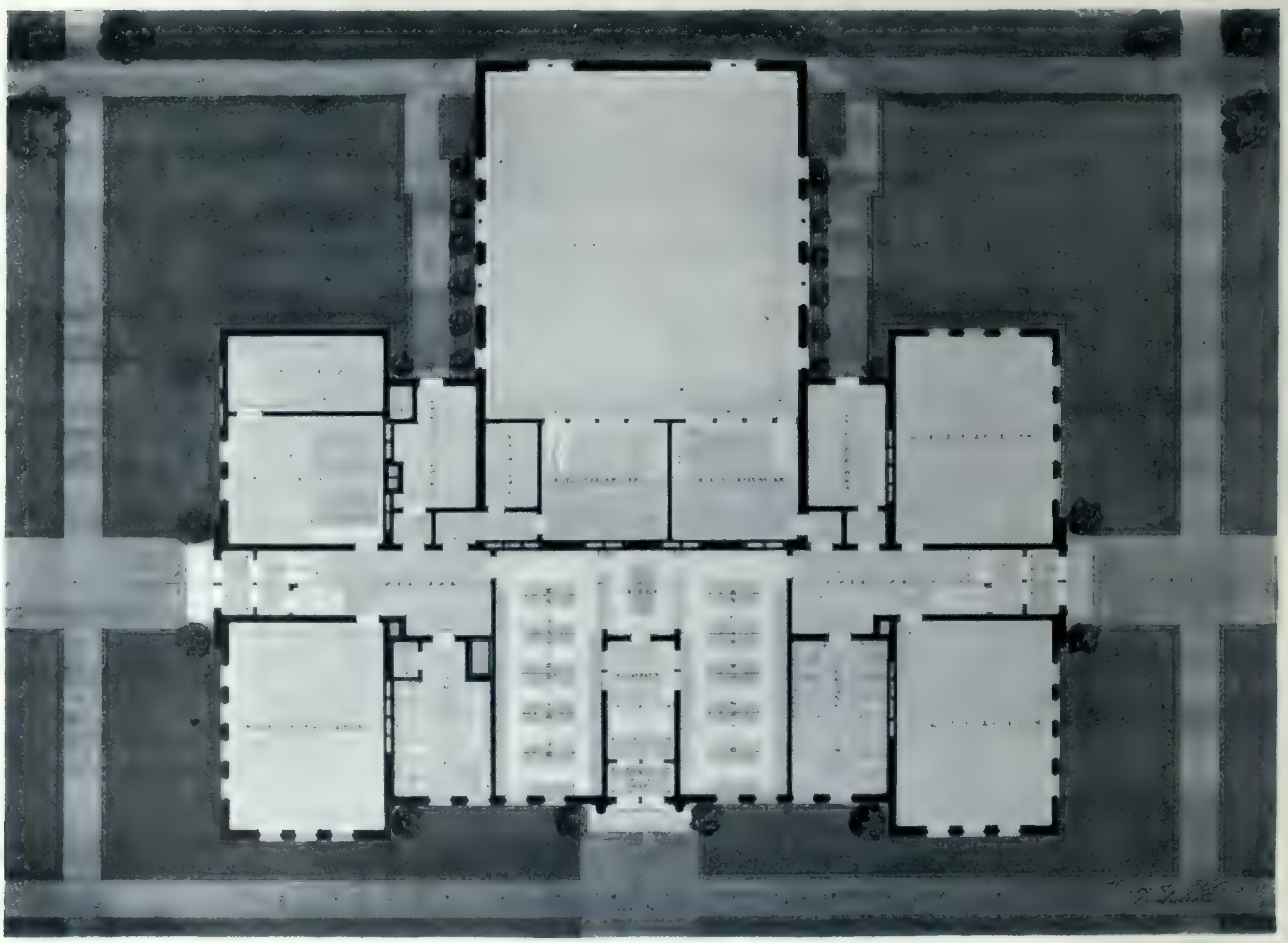
Appleby School - - Memorial Chapel · ·
Shepard & Calvin Architects

PROPOSED MEMORIAL CHAPEL, APPLEBY SCHOOL, OAKVILLE, ONT.

SHEPARD & CALVIN, ARCHITECTS.



FRONT AND END VIEW.



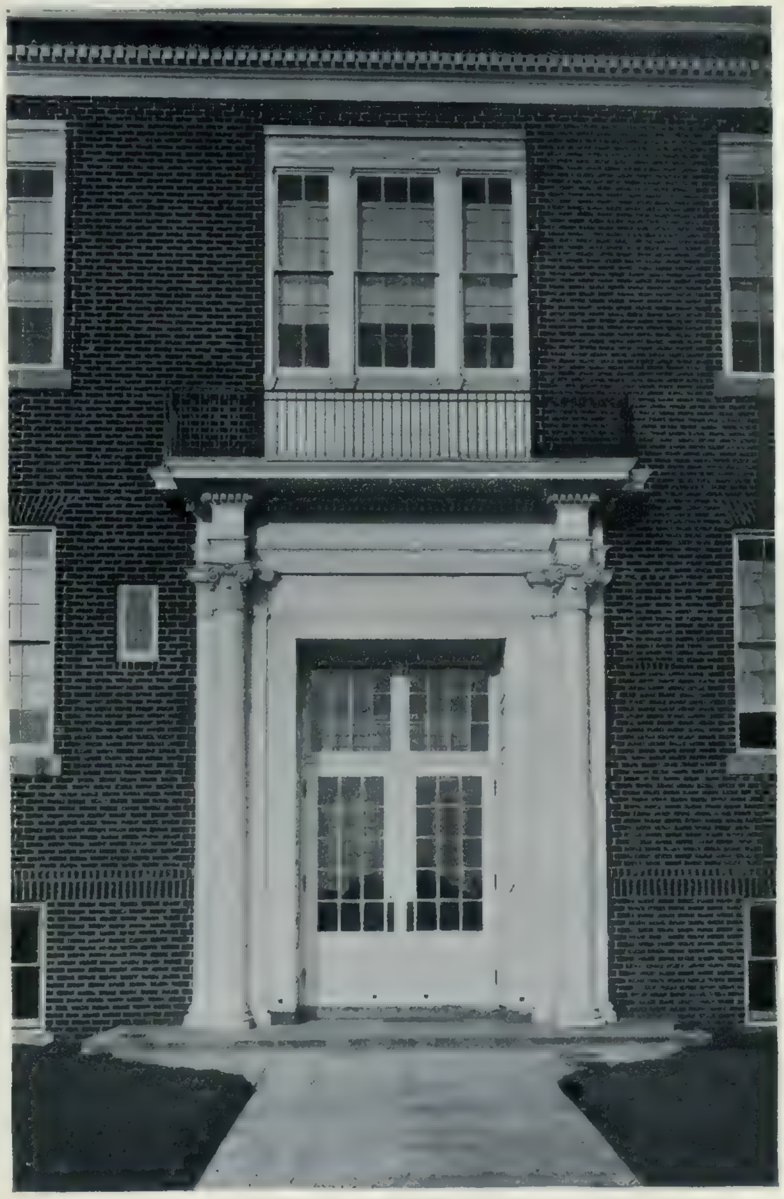
BASEMENT PLAN.

COLLEGIATE INSTITUTE, BARRIE, ONT.

ELLIS & ELLIS, ARCHITECTS.

Barrie (Ontario) Collegiate

THE new Barrie Collegiate was built from competitive plans by Messrs. Ellis & Ellis, architects, to replace the building destroyed by fire in 1917. The site of the building is centrally located, being situated on a high level overlooking the town and Kempenfelt Bay. This commanding position gives special advantages for an attractive and dignified scheme such as will be fully realized when the planting of trees and shrubs and the development of spacious lawns about the structure are eventually carried to completion. The design, which is a modern Colonial adaptation, frankly expresses the purpose of the building and provides for a plan which is symmetrical in general arrangement. Red brick of a rough texture and dressed Indiana limestone is used for the exterior. The walls which are devoid of windows, are treated with a diaper pattern formed with brick headers. These panels are surrounded by a stone architrave and capped with a simple cartouche to give relief to the otherwise blank space. The result in general shows careful study in which mass and proportions have been mainly relied upon for the effect obtained.



DETAIL OF ENTRANCE, BARRIE, (ONT.), COLLEGIATE.

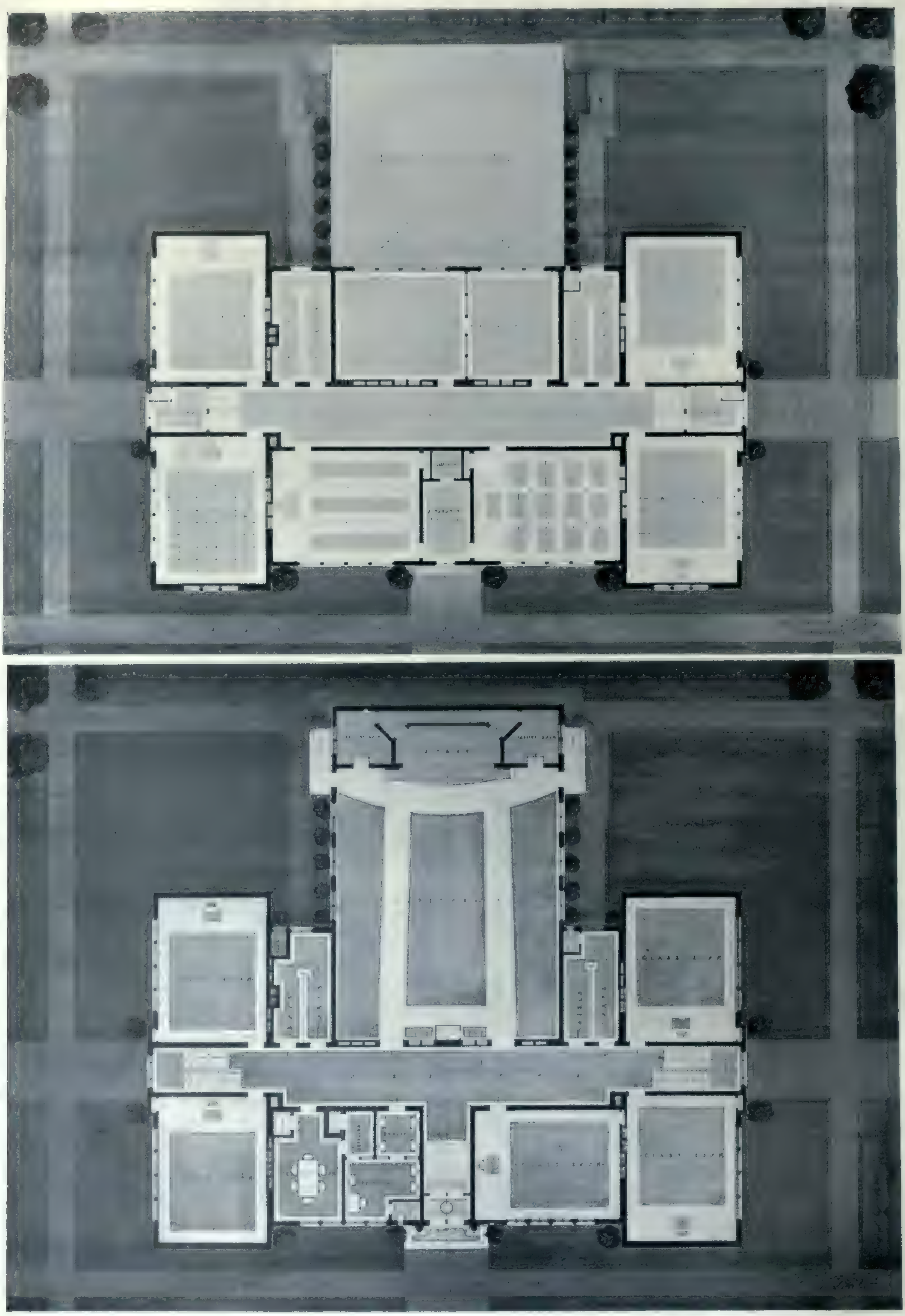
On the interior the partitions throughout are brick. All walls and ceilings are plasted with a fine white finish above a dado of Keene cement. The trim throughout is long leaf yellow pine in natural finish. The floors are double with wool felt between, the finished floor being of end matched maple and the stairs of birch.

The ground floor provides for the Principal's office, supply room and vault, library, five classrooms, two large cloak rooms and auditorium with stage and dressing rooms. In the auditorium is seating for 300 with accommodation for twice the number of chairs if desired. At the rear of the Assembly room is a fireproof chamber for a moving-picture machine which is being more fully recognized as a valuable means of imparting information and is hence becoming a necessary feature of school building equipment.

The stairs are located at either end of the corridors adjoining the sex entrances. The main entrance is at the front and is directly opposite the entrance to the auditorium. There is also a large emergency exit from the rear of the auditorium, making in all four exits.

On the first floor are located four standard class rooms and chemical and physical laboratories, the latter being equipped with modern apparatus and having dark rooms between the commercial class and typewriting rooms. In the chemistry room are twenty-four desks for students and the instructor's desk. Each of these desks has a specially prepared top proof against moisture and acids, a porcelain sink, water faucet, waste pipe and gas jet; also a hood and conductor pipe by which the noxious gases are carried to the basement by a fan system.

In the basement are the boys' and girls' recreation rooms, lunch and bicycle rooms and a

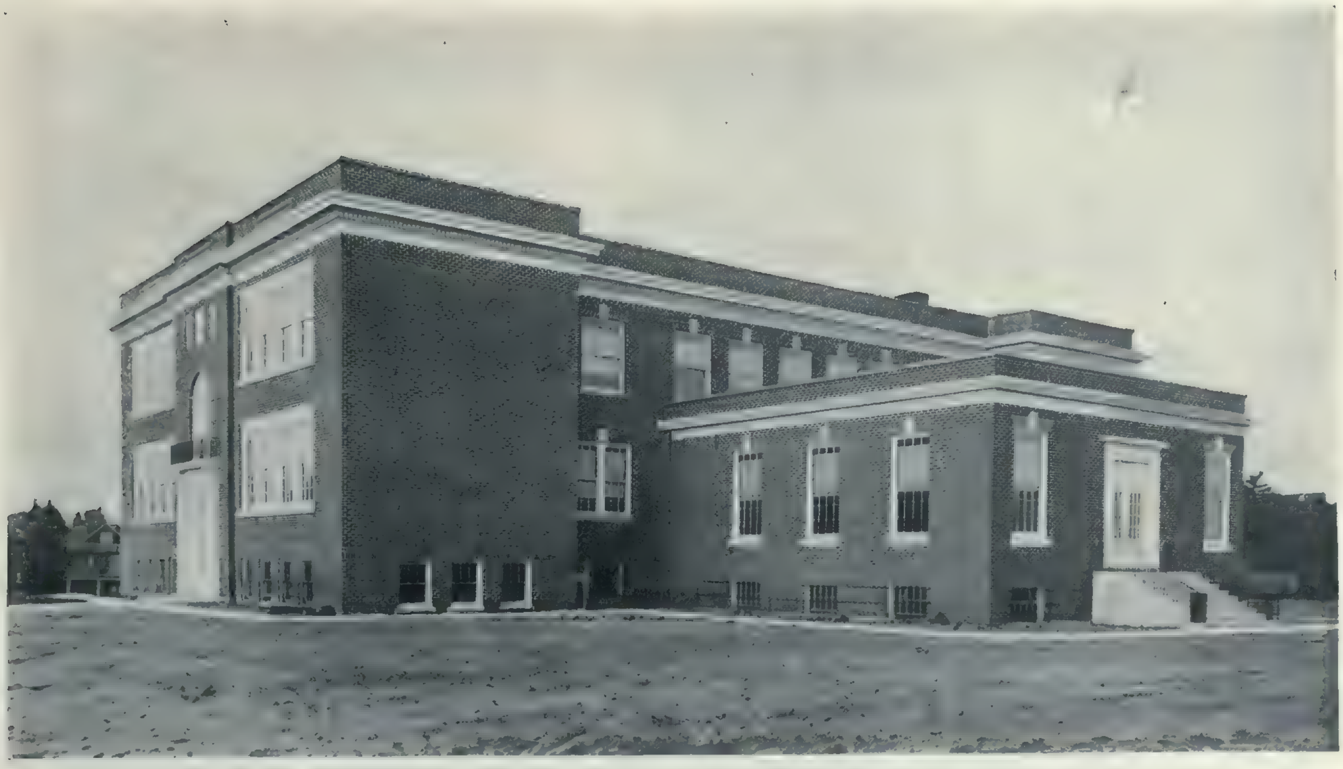


UPPER PLAN: SECOND FLOOR.

LOWER PLAN: GROUND FLOOR.

COLLEGIATE INSTITUTE, BARRIE, ONT.

ELLIS & ELLIS, ARCHITECTS.



REAR VIEW: COLLEGIATE INSTITUTE, BARRIE, ONT., ELLIS & ELLIS, ARCHITECTS.

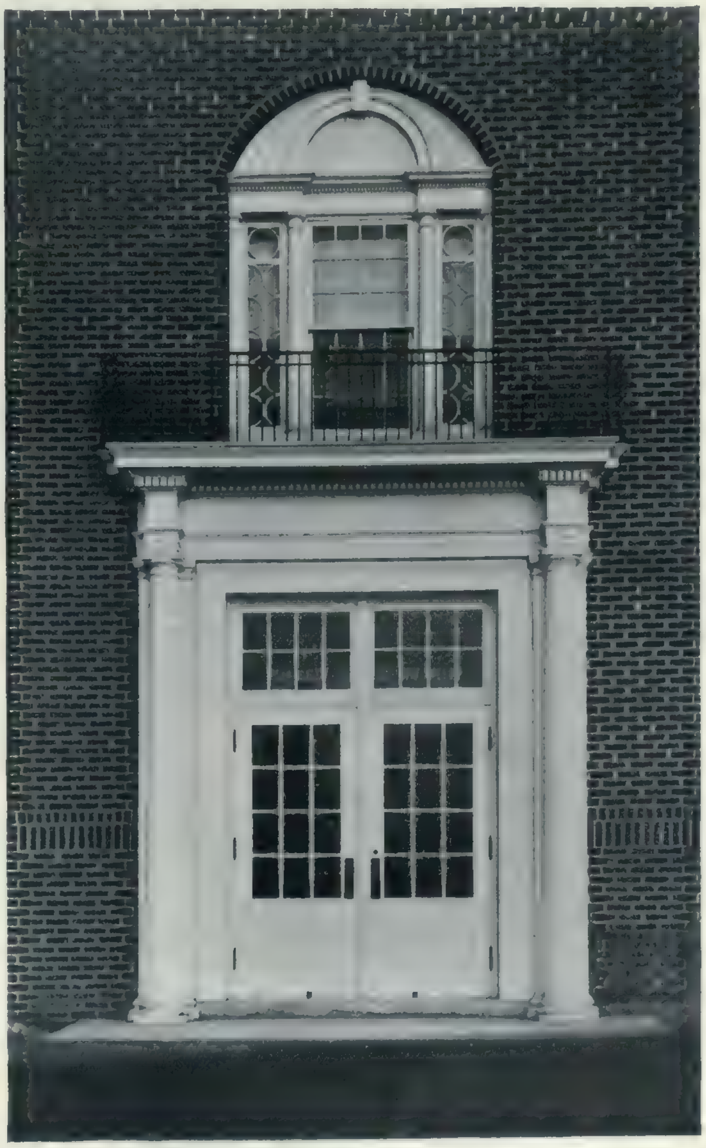
gymnasium from which opens the dressing rooms for both sexes, which are equipped with showers. The boiler and fuel rooms are completely isolated and fireproofed, a fire door cutting them off from the rest of the structure. The fan, pump and ventilating apparatus are also on this floor under the boys' bicycle room, and space is provided for the vacuum cleaning apparatus and the fan and motor which extract the fumes from the science rooms.

The heating and ventilating of the building is on the pleneum principle. The air is drawn down from a point 20 feet above the ground through a large duct into the fan room, passing through radiators into the fan, thence forced through galvanized iron ducts to the vertical brick flues leading to the various rooms. The system is provided with a tempering damper so that the air can be delivered at the temperature required. In the brick vent flues are placed dampers for the purpose of circulating the air in the building at such times when the school is not in session. The foul air is drawn off through vertical vent flues when class work is being held. The system will deliver 30 cubic feet of fresh, properly tempered air to every occupant of the school per minute, and 20 cubic feet per person to the auditorium.

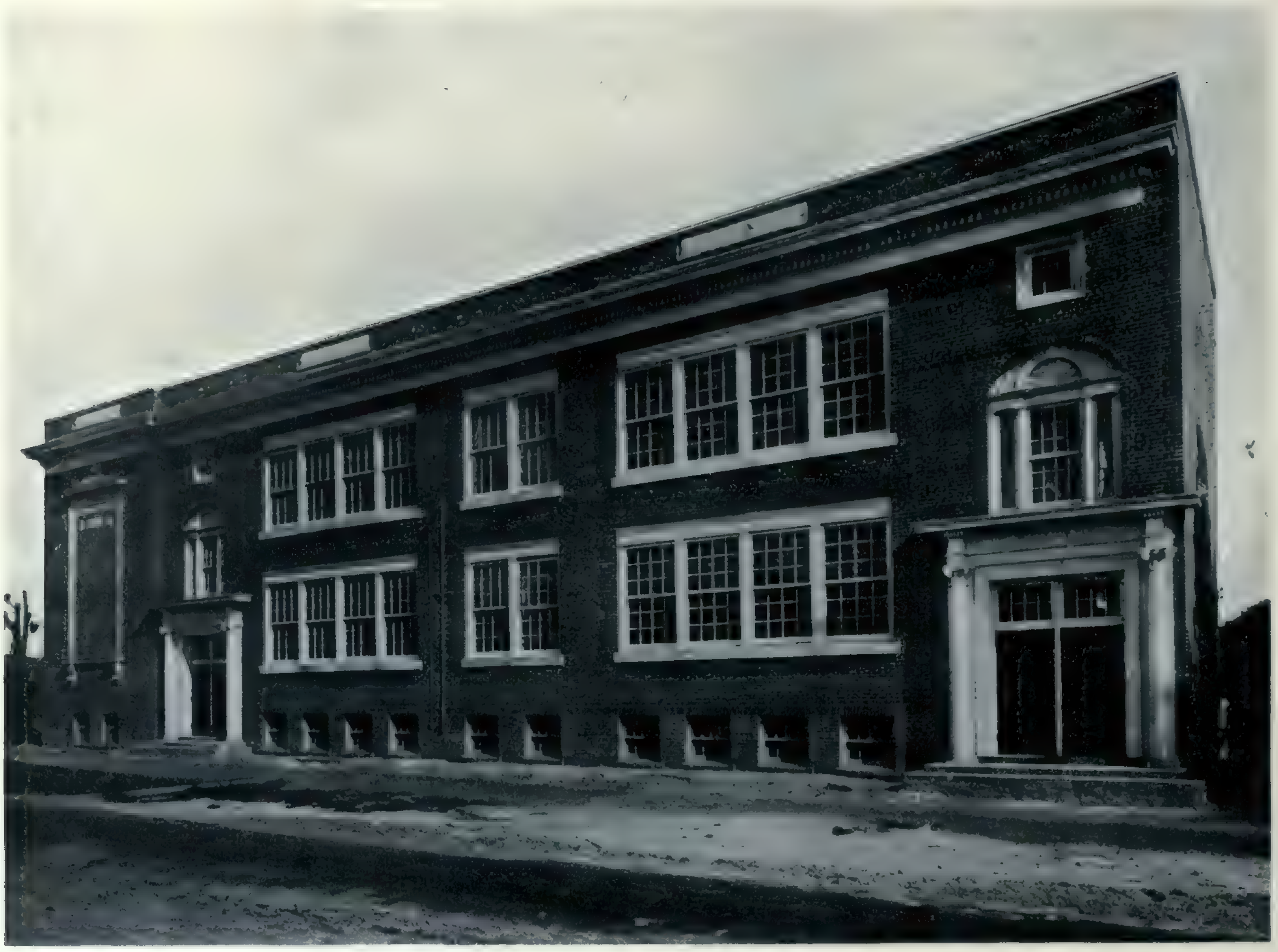
The equipment also includes a complete system of intercommunicating telephones, period and fire alarm bells, and other similar features.

The building has a frontage of 131 feet 6 inches by a depth of 119 feet 10 inches, and cost, including the site, $110,000.

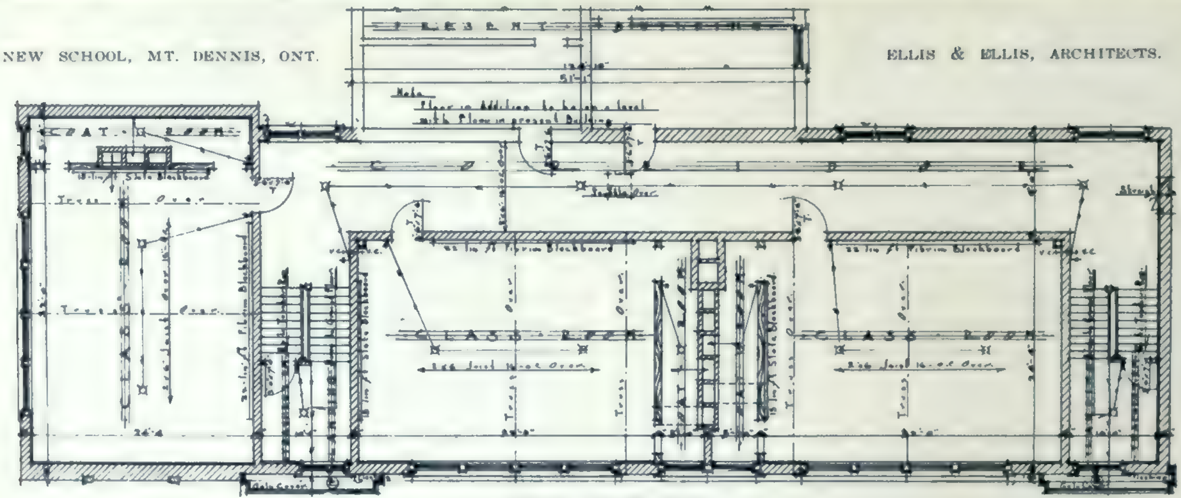
The Mount Dennis School which was designed by the same architects, follows to a large extent



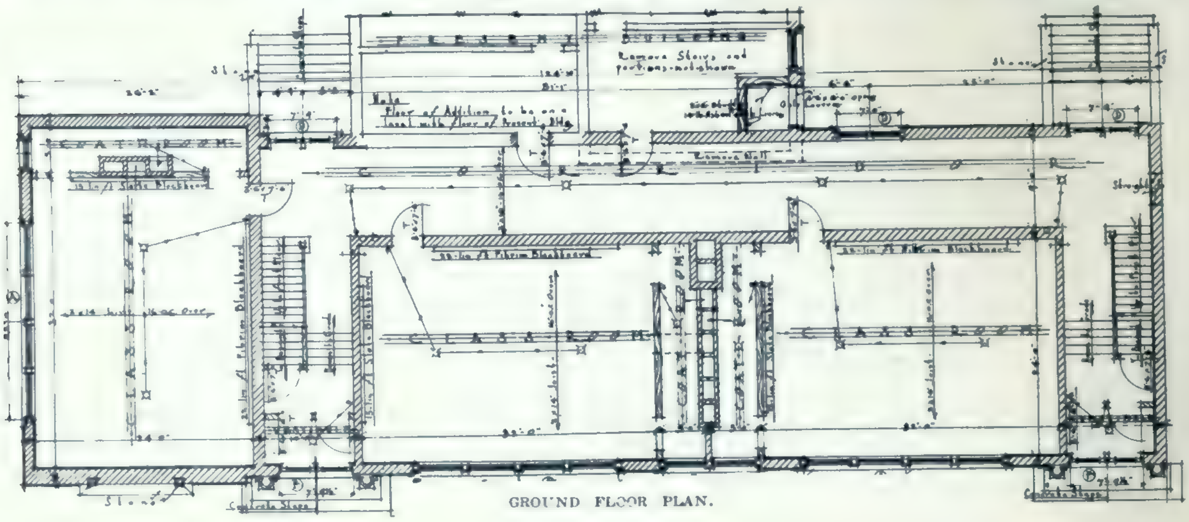
DETAIL OF ENTRANCE, BARRIE COLLEGIATE.



NEW SCHOOL, MT. DENNIS, ONT. ELLIS & ELLIS, ARCHITECTS.


PRESENT BUILDING
Note
Floor in Addition to be on a level with Floor in present Building
COAT ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM

SECOND FLOOR PLAN.



GROUND FLOOR PLAN.

the same construction and equipment as the Barrie building, and hence requires no need of further description.

TRENTON COLLEGIATE INSTITUTE.

The plan of this building shows a careful study of the requirements and general arrangement of the rooms.

Convenient to the central front entrance is the Principal's office, with a door leading from the same into a class-room, so that the Principal can take care of his administration and a class at the same time. In connection with the Principal's room is also a toilet and wash-room, well ventilated through the roof of the building.

Opposite the front entrance on the first floor is the Assembly Room which is architecturally treated with beamed ceiling and circular headed windows. This room has a seating capacity of 350 or more and has a small anti-room at one end where the seats can be stored when the room is used for drill.

There are three class-rooms on this floor with separate cloak rooms for the sexes. A well lighted corridor runs the length of the building, with separate stairways and entrances for the sexes at either end. The students' entrances are practically at the grade, and the doors are protected from the weather by shallow porches.

On the second floor there are three additional class rooms, a commercial room, chemical laboratory, physical laboratory, library, pupils' cloak rooms and a teachers' room with access to the girls' lavatory.

The basement contains a standard gymnasium, boys' and girls' dressing rooms, lavatories, showers, boiler, coal room and fan room.

The building is built of brown flashed pressed brick, trimmed with dressed grey stone. The corridors are trimmed with buff pressed brick dadoes, terrazzo floors and steel stairs. The balance of the trim throughout the building, doors, etc., are of Georgia pine and the floors of the class-rooms of maple. All the sash in the building is of the steel type.

The heating is effected by means of low pressure steam, generated from fire box boilers and together with the fan ventilation is automatically controlled by means of thermostats.

ST. BERNARD'S ACADEMY, SHAWINIGAN FALLS, QUE.

The dimensions and accommodations of this building are indicated on the plans. The structure is of reinforced concrete and the exterior is of two shades of buff brick with Indiana limestone trimmings. The ground floor which consists of a large auditorium, is tiled throughout, the other floors being of birch. B. C. fir is used for trim in the various rooms and the plumbing and heating are of modern character. The cost of the building was $100,000, and the residence for the nuns, which adjoins and which is constructed of the same materials, was built for $40,000.

◆

Revival of Tapestry Weaving in Scotland

The London Daily Telegraph of May 17 states that Lord Bute has been endeavoring for some time past to revive tapestry weaving in Scotland. He has had fine buildings erected and designs for the weavers provided by a Scottish painter. A great panel of tapestry, measuring 32½ by 13½ feet and representing a Highland hunting scene, has now been completed, and is said to be the largest piece of tapestry yet produced in Scotland.

This completion of the first of a contemplated series of panels has relation to a scheme under consideration by the State authorities which is expected shortly to receive official sanction. Sir George Frampton considers that tapestry weaving might be taught to disabled men, but it was necessary first to satisfy the British Ministry of Labor and Pensions that weavers would find employment before official sanction was given to the course of training and funds provided for carrying it on. The arrangements are said to be now practically completed, the men are selected, the looms are ready, and instruction will be given by experts at the London County Council School of Arts and Crafts.

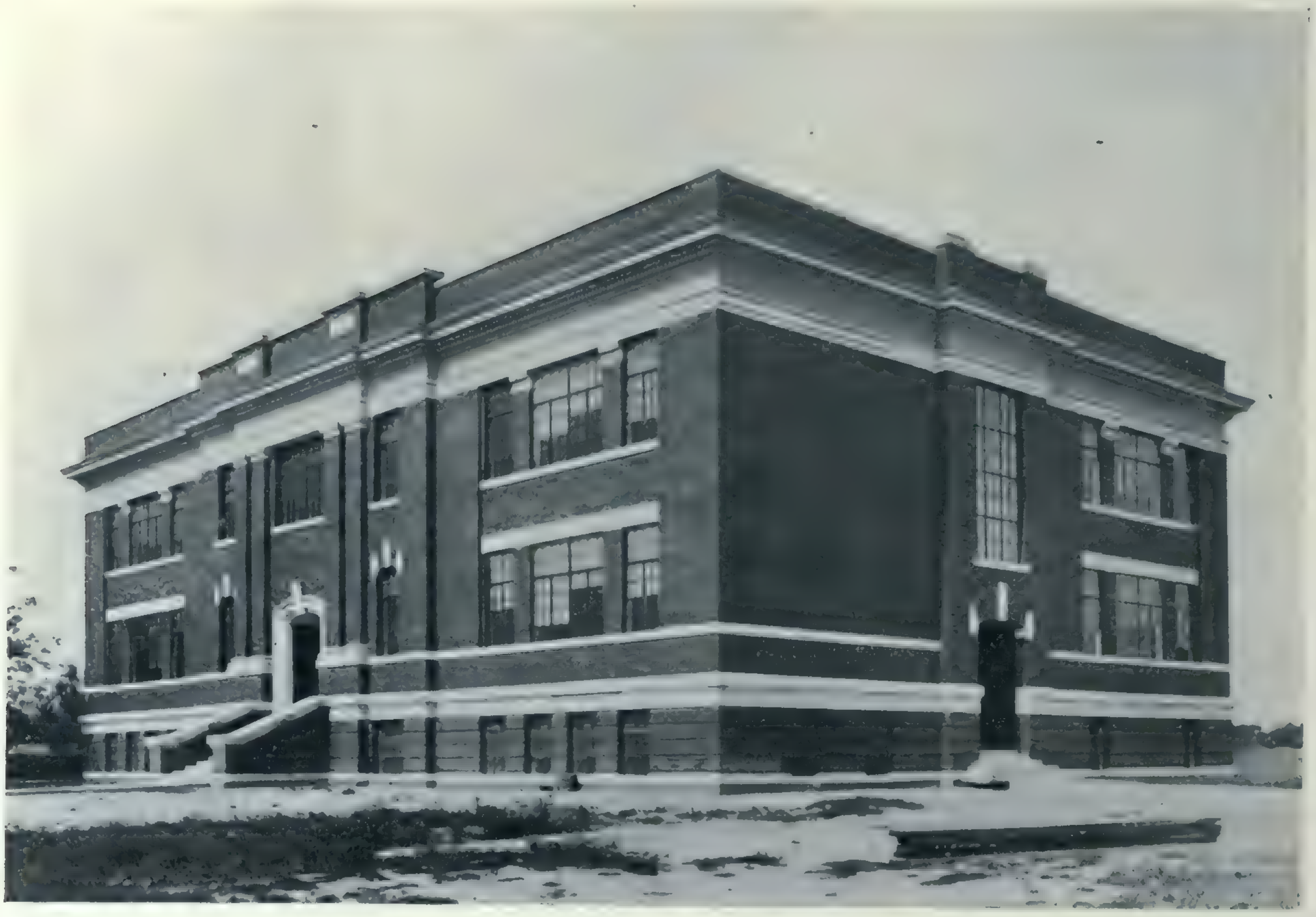
◆

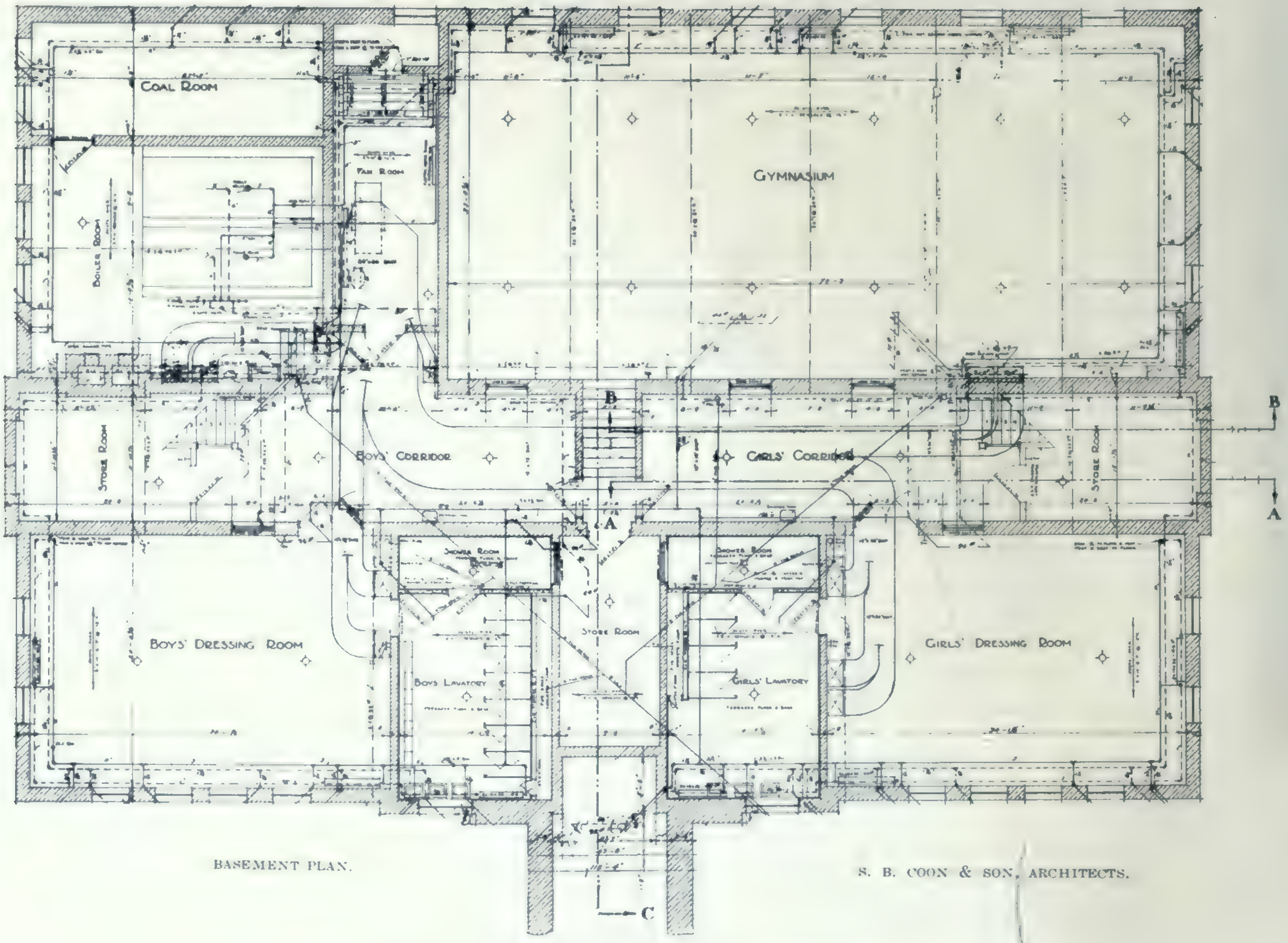
Danger in Unsightly Ruins

Why is it that so many villages, towns and cities permit the wreckage resulting from serious fires to remain in the very centre of their business areas? Every traveler who visits villages and smaller towns especially, must have noticed these disfigurements. Ruined basements extend right to the sidewalk, filled with water and partly burned timbers, without even a railing to prevent accidents to pedestrians. Canada has long held the world's record in the matter of fire losses, and the fact that burned ruins are permitted to remain for years in scores of communities, indicates how shameless Canadians are with respect to their prodigality.—"Conservation."

◆

Mr. E. G. Horne has retired from the firm of Grant & Horne, hitherto carrying on a general contracting business in the Province of New Brunswick, with head office at St. John, N.B. The business will be continued by Joseph A. Grant, for the present under the firm name of Grant & Horne.

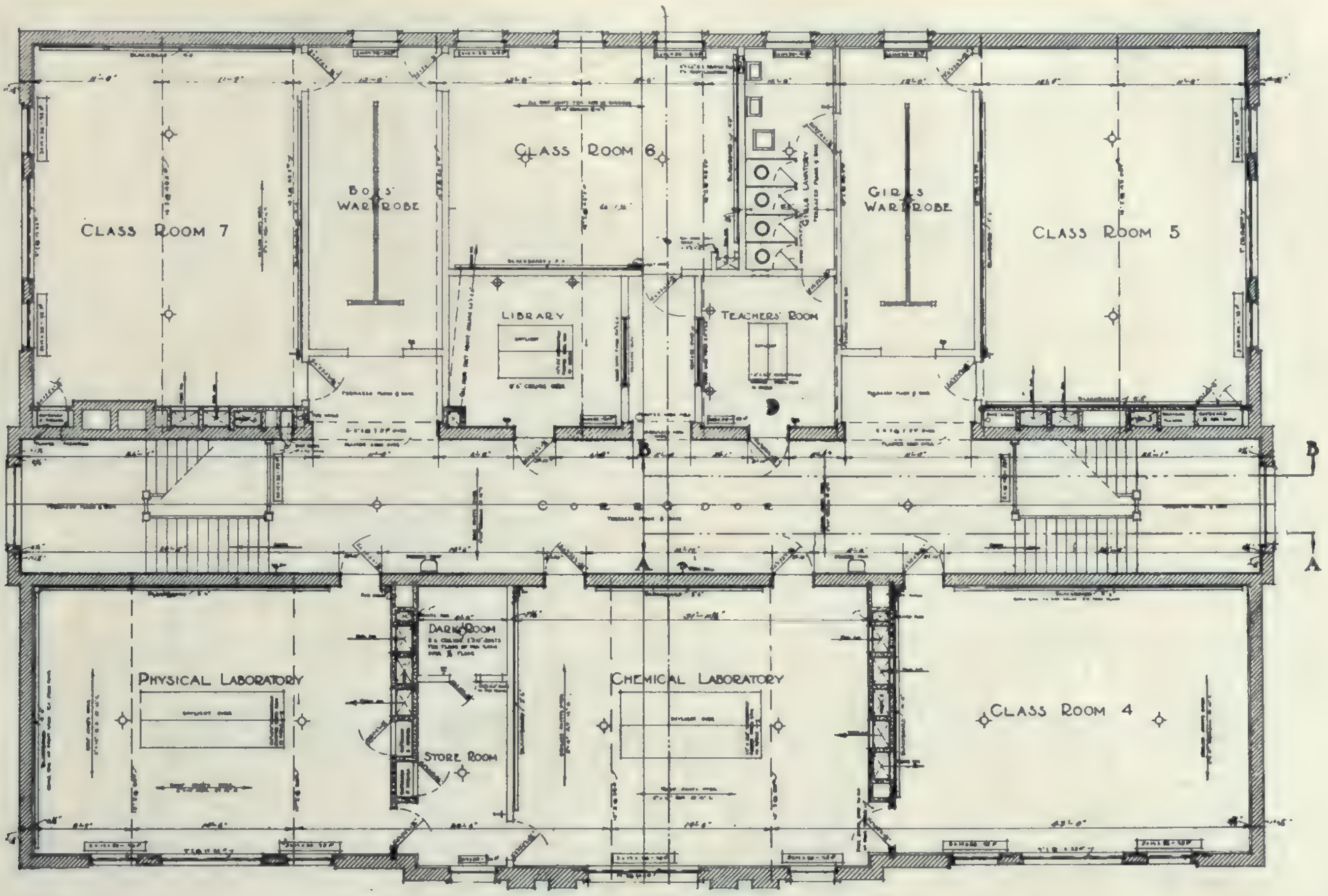




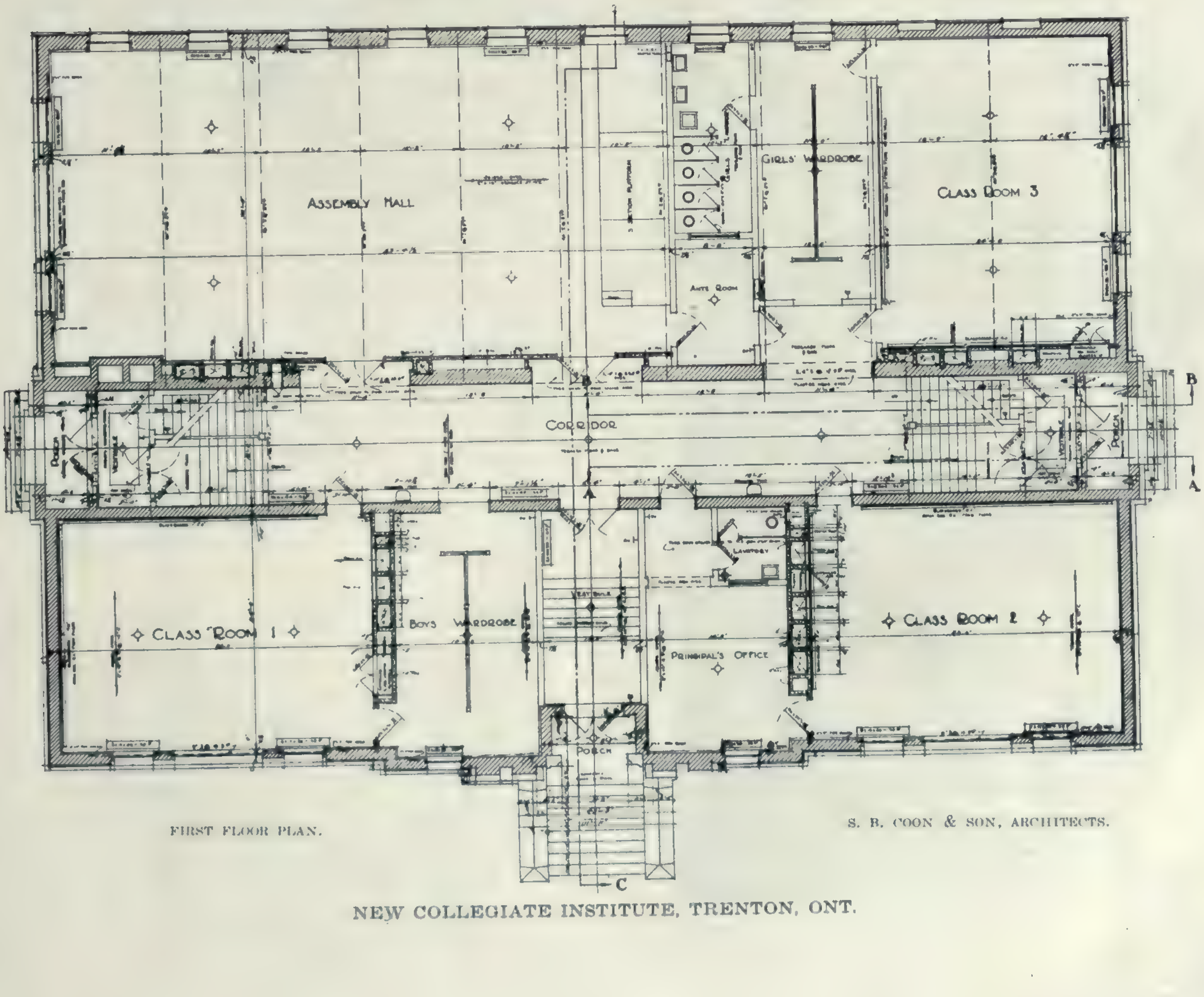
BASEMENT PLAN.

S. B. COON & SON, ARCHITECTS.

NEW COLLEGIATE INSTITUTE, TRENTON, ONT.



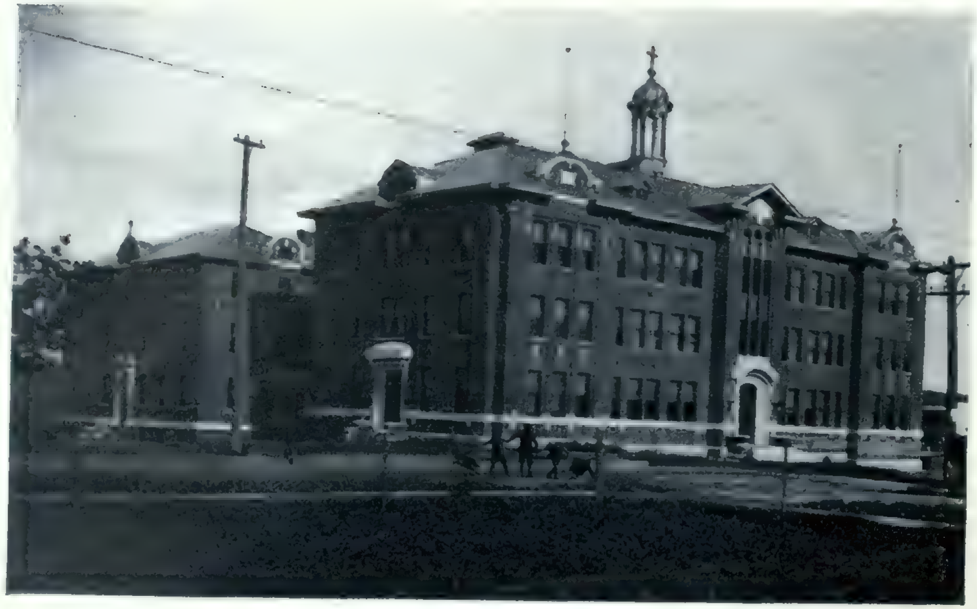
SECOND FLOOR PLAN.



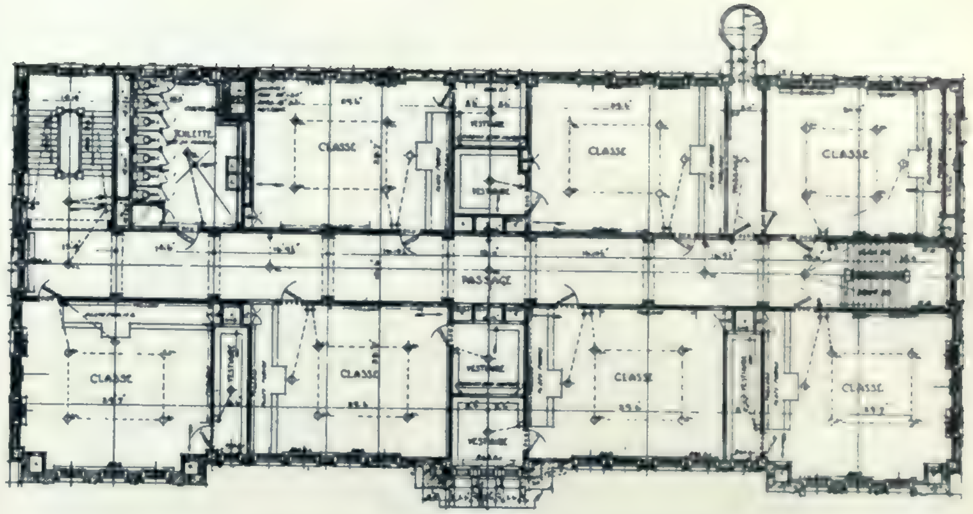
FIRST FLOOR PLAN.

S. B. COON & SON, ARCHITECTS.

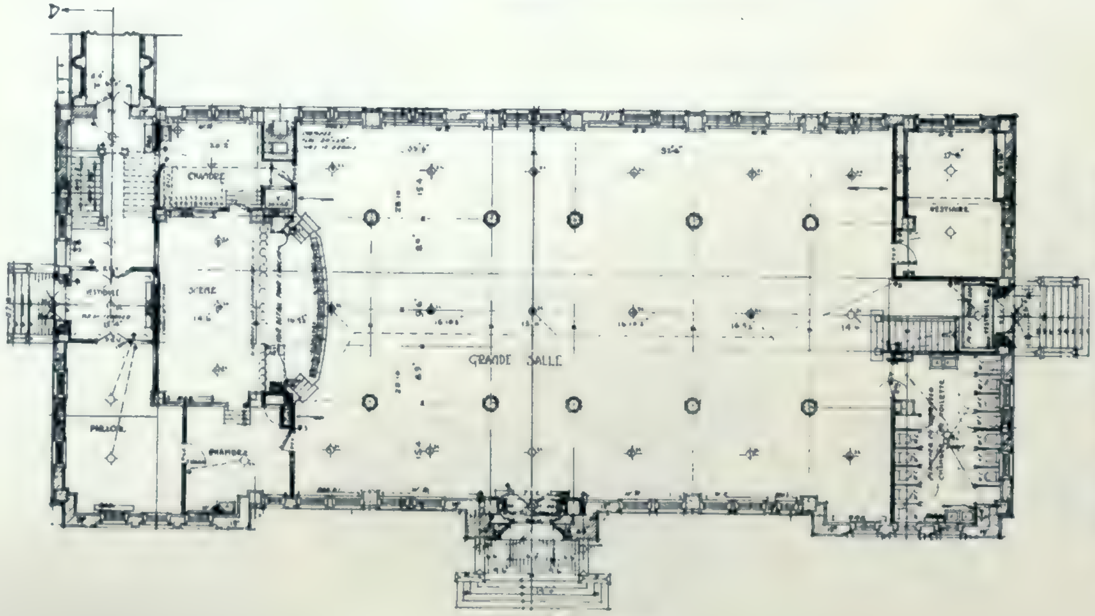
NEW COLLEGIATE INSTITUTE, TRENTON, ONT.



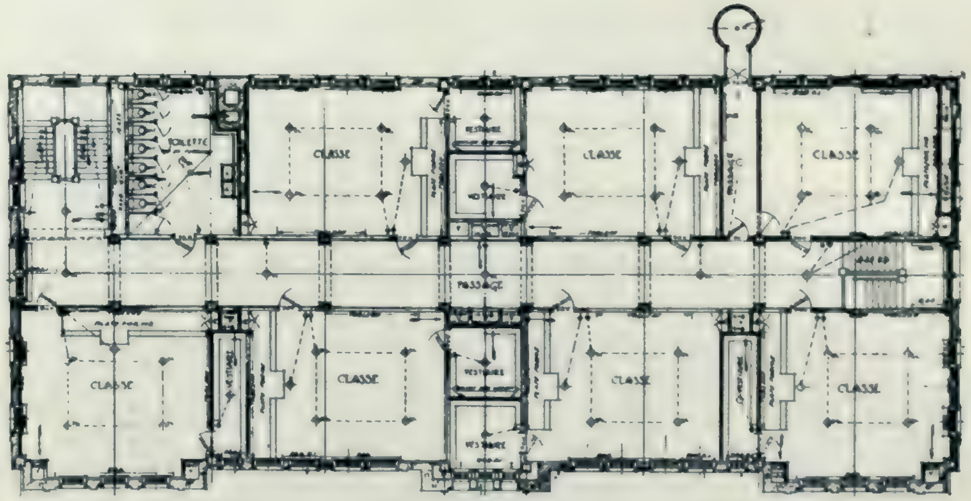
EXTERIOR VIEW.



THIRD FLOOR PLAN.



GROUND FLOOR PLAN.



SECOND FLOOR PLAN.

ST. BERNARD SCHOOL, SHAWINIGAN FALLS, QUE.

J. O. TURGEON, ARCHITECT.

First Meeting of Town Planning Institute

The following report of the first meeting of the newly formed Town Planning Institute of Canada came to hand too late for the last issue, and is published in full herewith, owing to the important movement which it represents. Unlike Great Britain and the United States, to which reference is made, Canada is as yet at the threshold of her development. Consequently, the consideration of town planning in the Dominion at this time will, if proper organization is effected, enable us to avoid the mistakes of unsupervised growth, and to properly plan all new districts when it will be possible to realize the best economic and aesthetic results. The new Institute is particularly fortunate in having so capable a person as Mr. Thomas Adams as chairman, as well as a membership which has given the question of town planning close study. Indeed, the discussion at the meeting revealed that a great deal more thought has been given to the subject than one might at first imagine, and brings conspicuously before us such objects as are worthy of the earnest consideration and support of all citizens.—Editor.

THE first general meeting of the Town Planning Institute of Canada was held in the Russell Hotel, Ottawa, May 31st, 1919. Mr. Thomas Adams, Chairman of the Provisional Council, presided.

The following members were present: Thomas Adams, Dr. E. Deville, Dr. O. Klotz, N. Cauchon, J. B. Challies, F. D. Henderson, C. P. Meredith, H. L. Seymour, R. H. Millson, W. D. Cromarty, D. Ewart, B. E. Parry, F. G. Todd, Thos. Fawcett, A. H. Hawkins, S. E. Farley, A. Buckley, E. T. B. Gillmore.

The first business of the meeting was the confirmation of the provisional membership. The chairman announced that the list comprised fifty-two provisional members.

Sir Lomer Gouin and Hon. N. W. Rowell were elected as honorary members.

The following were elected as associate members subject to the execution of certain further formalities in connection with forms of application:—

ASSOCIATE MEMBERS.

Architects.

Richard H. Millson,
James P. Hynes,
William D. Cromarty,
David Ewart,
George A. Ross,
W. Herbert George,
Charles H C. Wright,
Ramsay Traquair,
Percy E. Nobbs,
Arthur A. Stoughton,
Robert H. Macdonald,
Edward Maxwell,
Colborne P. Meredith.

Engineers.

R. S. Lea,
William M. Tobey,
George H Ferguson,
Horace L. Seymour,
William H. Powell,
Charles A. Bigger,
John L. Rannie,
Christopher J. Yorath,
Arthur G. Dalzell,
George Phelps,
James A. Walker,
William A. McLean,
Percival H. Mitchell,
Noulan Cauchon,
James White,
John B. Challies,
Lionel C. Charlesworth.

Surveyors.

Francis D. Henderson,
Thomas Fawcett,
Edouard Deville,
Wilbert H. Norrish,
William A. Begg,
Ernest B. Hermon,
Thomas A. McElhanney,
Albert H. Hawkins,
Carl Engler,
Athos M. Narraway,
Sidney E. Farley,
Otto Klotz.

Landscape Architects and Town Planners.

Frederick G. Todd,
Alfred V. Hall,
H. B. Dunington-Grubb,
Thomas Adams.

Legal Associate Members.

Thomas B. McQuesten,
James A. Ellis.

Associates.

G. Frank Beer,
Dr. W. H. Atherton,
A. Buckley,
E. T. B. Gillmore.

The Chairman presented a report on some features of the City Planning Conference held at Niagara Falls during the last week of May. The Institute, he said, had been well represented at the Conference considering the existing small membership. The Conference was called under the auspices of the cities of the Niagara frontier and was International in its purpose and significance. It had fallen to his lot to present a paper on "The Regional Survey as the Basis for Regional Planning and Regional Planning as the Basis for Town Planning." The subject dealt with the district twenty miles on either side of the Niagara River covering an area of 1,000 square miles and with the aid of seven or eight diagrams the paper set forth the basic conditions that require to be considered with regard to the whole district. He thought that the consideration of the subject might lead to the formation, on both sides of the river, of an International Town Planning Commission dealing with the whole of that region. This would mean a big scheme and one of worldwide value. The scheme should have special interest to professional men as it would enlist the services to a large extent of surveyors, engineers and architects.

A discussion took place on the question of the formation of local branches and local representation. Mr. Todd suggested that the provisional council seemed to be largely composed of Ontario men and that Montreal was not very well represented. On that ground he foresaw some difficulty in the formation of a Montreal branch.

The Chairman explained that this point had been discussed; that the provisional council was appointed to carry on the work of organization for the first year and that it had seemed necessary that the membership should be largely drawn from Ottawa in order to make it possible to conduct business. He also explained that the organization was started in Ottawa and they had no assurance that anyone in Montreal would join them. The council, however, was merely provisional and at the end of the first year it would be easier to elect a wider representation. Local branches would have to be formed in Montreal and Toronto, and proper representation given on the Council.

The Prospects of a Town Planning Institute in Canada.

Mr. Adams addressed the meeting upon "Prospects of a Town Planning Institute in Canada." He referred to the progress made in forming Institutes in Britain and the United States, and to the special difficulties Canada had to meet in attempting to create any organization on the basis of conditions in these countries.

In Great Britain there was practically no such thing as a "town planner" prior to 1909. In that year the Town Planning Act was passed by the Government and there arose a need for men as town planners. In 1913 the Town Planning Institute was formed. It consisted of the architects, surveyors and engineers in Great Britain who were prominently identified with town planning.

They have this advantage over us, Great Britain is a small place and therefore meetings can be held frequently and they have been very successful. They hold about eight meetings yearly, and they have presented papers which are published and form very interesting and valuable literature on the subject. An annual volume is issued with a subscription of two guineas for members and one guinea for associates.

In Britain, when a town wishes to have a scheme prepared, if it has not an engineer who is also a town planner, then an expert town planner is asked to assist. The city engineers of the chief cities are prominent members of the Institute.

It is strictly a professional institute and there has been no difficulty in separating the associate from the professional members. Some of the associates, however, have studied town planning for many years but are not professionally qualified. These include Mr. Henry Vivian, Chairman of Copartnership, Ltd., Mr. H. R. Aldridge—who has written a very comprehensive book on the subject—and Mr. Ewart Culpin, Secretary of the Garden Cities and Town Planning Association. None of these men were eligible as professional members but were elected as associates. The Institute was formally established as a professional organization and has brought into existence a definite scheme of instruction in Town Planning. An examination syllabus has been issued, and the aim was that no one could become a member without examination. They have also a school of civic design in Liverpool University and a professorship of town planning in London. In regard to professional work they have issued a scale of charges for town planning work. Members of the Town Planning Institute were recently elected Housing Commissioners. Mr. Raymond Unwin, an ex-President, is now chief architect of the Government in respect of its housing schemes that involve an expenditure of $600,000,000 to $1,000,000,000. Mr. G. L. Pepler, a Vice-President and first Secretary, is Town Planning Inspector to the Local Government Board. Professor Abercrombie, Librarian of the Institute, is editor of the Town Planning Review and head of the Liverpool School of Civic Design, and Professor Adshead, the President, is Professor of Town Planning in London, and adviser on town planning to the Prince of Wales.

Starting out with small anticipation the Institute is becoming very much alive and its members are benefiting while contributing their services to their country.

In the Institute we had Professor Geddes, as first Librarian, whose collection of town planning material was sunk by one of the German raiders on its way to India. He had collected material costing $12,500 which was all lost. The Institute immediately set to work to collect duplicates as far as possible and these were sent out to him in India. Professor Geddes is not an architect or a surveyor, but has high academic qualifications as a regional planner. He has done great work in India and has published several large volumes on Town Planning in India through the Indian Government. His son, Alister, was trained as a town planner. Passing through Edinburgh University he took up town planning with his father; went across to Dublin to assist in the organization of an exhibition. In 1914 as the holder of a scholarship, he wished to finish his studies in India. When the war broke out he came back to help his country. Owing to his study of topography and his facility in drawing and his acquaintance with regional development he was selected in France as a balloon observer and became one of the most competent on the staff. He was killed in 1915.

THE TOWN PLANNER IN THE UNITED STATES.

The development of the town planner in England has proceeded rapidly. The beginning in the United States was not so satisfactory from a scientific point of view. It came about in a different way. In Britain, they started to promote a school of town planning with a view to creating a trained class of professional men. In the United States there has been no deliberate objective of that kind, until very recently.

The National Conference on City Planning in the United States was first held twelve years ago. The chairman is Mr. P. L. Olmsted, who is an able landscape architect, and a man whose name is widely honored. He has been chairman for twelve years. That itself has been a weakness. I do not think a chairman should hold an office more than one year. The organization is weak in its architectural and engineering membership. There has been a tendency, probably quite unconscious, rather to confine town planning to landscape architects and there is now a good deal of lee-way to make up in order to interest the engineer and the architect. Two years ago I suggested that a city planning institute be formed. This year a step has been taken to separate professional functions from propaganda. But the council of the Institute is the same as the council of the Conference which is engaged in what may be termed propaganda. I do not approve of that combination.

In Canada, I think we have started out in the right way. The chief question I have to deal with to-night is what prospect is there, for those of us who are interested professionally in the subject, that there will be sufficient scope for using our knowledge of town planning. We have the great difficulty of planning for a small population in an immense area. Great Britain has about 50,000,000; America, over 100,000,000. We have our 8,000,000 scattered over a larger territory than the United States. We shall have to be content to grow slowly as a profession. A small population means a smaller number of practitioners. There will be the difficulty of getting sufficient reward for professional work in Canada to make it practical for men to train for the profession. But while we are a small country, we are a growing country and a town planner has to deal with growth.

Our Government has promoted the best housing scheme of all the Governments. In Great Britain they are spoon feeding the population with their housing schemes. It has dangers and it is not so sound economically as ours. I have had letters from two sources sustaining this claim. Mr. Campbell, a member of the Town Planning Institute and City Engineer of Edinburgh, has just written to me to say that he is satisfied that the Canadian scheme is based on sounder economic principles than the Scotch scheme which had been made for Scotland by the English Government. Mr. Taylor, of the firm of Mann and MacNeille, of New York, says in a letter:—

> "We wish to express our unqualified admiration for the completeness, practicability and simplicity of the administration methods outlined in the data received from you. We believe this to be the most practicable step toward the provision of good housing by Federal co-operation which has yet been taken in any country."

We have opportunities here because we are beginning at an early stage in the development of the country. On the other hand we have the disadvantage of a smaller population and lack of appreciation of professional capacity.

The other day I was going over the deep cut being laid between the Rapids and Queenston by the Hydro-Electric Commission and was informed by the engineer that somebody had applied to him for a job. He had said to him, "Well, I could give you $80.00 a month." The young fellow had looked rather glum. "Well, if you think that is not enough that is the best I can do. Is there anything else you can do?" "I have been accustomed to boring," said the applicant. He was referred to the engineer in charge of the boring. Later the engineer met him and said: "Have you got something?" "Yes," was the reply, "I am boring at $130.00 a month." There was a man with a university training. He had to take the work of a skilled laborer in order to get a decent salary. What encouragement is there for a youth to go to the University and learn a profession? Railway men are earning up to $3,000 a year. Many of the engineers have to be content with $2,000. If a man is to be a town planner, he has to take his four years' course in Architecture and Engineering and then a post-graduate course of a year in town planning. You get a man to take a five years' course and then you meet this difficulty of having his services valued as a skilled laborer who can learn his job in a few months.

But there is no question that town planning will come to be appreciated.

There are some hopeful signs of this fact. First we have the surveyors who, almost to a man, are now recognizing that they have to take up the question of topographical survey in a more extended way. Then we have also to consider that regional planning is a thing that has come to stay in England and the United States and that it is one of the things that is very much needed in this country. Many industries are spreading over areas that have no reference to municipal boundaries at all. You cannot town plan even Ottawa with 100,000 inhabitants unless you take in about half a dozen municipalities. If you wish to zone Ottawa or to insist upon proper building by-laws it cannot be done unless Westboro and Eastview have the same restrictions; otherwise people would skip the boundaries and build as they like. In the regional planning which I hope we may take up as a subject of special study, we require the surveyor and the engineer to prepare the regional survey as the basis for the regional plan. The surveyor should become our chief man in the regional survey. You cannot town plan unless you know what the existing conditions are. You have to find out what is the basis on which you wish to build your town planning. The engineer comes in to assist the surveyor with the collection of data concerning roads, railway transportation, sewage disposal and water supply. For this we need a regional survey in which we shall need specialists in the future. We need the regional survey to present us with the exact data we require to prepare our plan.

We had a survey made in the Niagara district. We wanted the facts and there was need to obtain correct information, and the surveyor and engineer supplied us with such information. We have information collected regarding railways, waterways, highways, sewage disposal, power, etc. One municipality may have its sewage disposal on higher level than another and become a water shed sending down polluted sewage to the other. When you have finished with your survey you must bring in the landscape architect. The engineer and the landscape architect present us with the regional plan as the basis for general development. The landscape architect will deal with the park system in a general way. The Niagara district should have a parkway from Buffalo right down to Lake Ontario. Along the Niagara River it touches five or six municipalities.

When the regional plan is prepared, then Town Planning Commissions have to be appointed for the municipal areas within the region. The different towns will each have their own local engineer to fit in his plan with the regional plan. He will know where the other plan touches his. Then the architect will finish the job commenced by the others, fix residential areas, group buildings, arrange the minor street system and bring to a climax a definite scheme, when the lawyer also will appear and an Act of Parliament will follow.

All this needs considerable organization and professional talent of varying degree. There is a field big enough for all the talents. We can bring it to bear if we get the teaching we require in the Universities and we can also show that such money is well spent. If the services we are able to give are properly appreciated we shall be able, as we apply courage and vision, to convince the people of Canada that we have a big contribution to make in the application of science to the making of a strong country, and the building of a strong race, living in houses not only comfortable but in right relation to industries, means of recreation and sources of power. Then proper organization and planning will help to give the people the right foundation and build up this country in such a way that there will be less to regret in looking back than is the heritage of older countries.

DISCUSSION.

MR. CHALLIES: I would like to say a word or two about development of water power in Canada in relation to town planning. The Departmentof the Interior, since the inception of the Water Power Branch, has been trying to interest these corporations and to get them to consider their project from both the standpoints of the town planner and the architect.

I think we have secured excellent results so far. We find power companies are quite willing to do anything reasonable consistent with the question of construction costs.

We asked them to retain an architect to go over their engineering plans, and we find them quite willing. The Vancouver Power Company, for instance, has a chief engineer of some vision, who retained an architect and had the power house designed by him, with the result that to-day it is one of the beauty spots of British Columbia. He had also some of his intake work designed by the architect, which has been accepted by other architects as a little architectural gem.

Since the town planning movement got started in Canada we have also endeavored to get the power companies to lay out the immediate surrounding of their developments.

Only in one case have we received any opposition. Winnipeg absolutely refused to consider our suggestion. The result has been that in a $4,500,000 power project, twenty-five miles from Winnipeg, twelve or fifteen hundred acres of land have been flooded, with the timber standing there dying. It is a most lamentable condition of affairs. They also refused to consider having the power house and incidental work under the supervision of an architect. To-day they have a power house which you could not describe better than by the term "barn." In another case on that river a private company have accepted our suggestions, and the result is, about fifty-five miles from Winnipeg, their plant is an oasis in the desert. They have a little park that is comparable to a portion off our drive-way. They have laid out about fifteen acres as a park; fourteen or fifteen cottages have been built from special designs by the architect, and other residences of a more pretentious character. The cost of the lay-out of the park was less than $3,000. The workmen do not need to go to Winnipeg to feel that they are in civilization.

The power situation on the Winnipeg river is that we have many complete surveys all along the river. The territory is similar to the territory on the Ottawa river. We have come to the conclusion that if the increase in the use of power from that river is projected into the future, it is only a matter of twenty-five or twenty-six years when practically all the capacity of the river will be developed. We are insisting in all future development that the lay-out must be treated on town planning lines; that all of the work must be submitted to an architect, and if this is done consistently, the result will be that in twenty-five or twenty-six years there will be a continuous park along that river comparable to the regional project of the Niagara river.

I was interested in what Mr. Adams said about propaganda. I think there is propaganda and impropaganda, to use a moving picture term. It seems to me we must indirectly educate the public to feel that town planners must be employed, and try to make the public understand the situation. On the Winnipeg river, for example, when it was suggested ten years ago that a town planner or architect should be employed we were almost laughed out of court. But the fact that one company in Vancouver did employ a town planner was appreciated by those who knew about it. If you ask the average engineer whether a town planner should be consulted, he would say no. If the engineer says that, what can we expect from the public?

MR. GILLMORE: There are seven million people in Canada, and most of them know nothing about town planning. I think that collective propaganda is very much needed—good, hot propaganda. The big mill men and landlords don't care anything about it. To my mind, propaganda is the whole question. If local branches are to be organized, there must be a constitution whereby they can have a regular representation upon the central committee. I should also like to ask why artists are not included. Why should a Royal Academy man not have a place?

MR. MILLSON: In working on the Renfrew proposition for a civic centre, it came to my mind several times that the awakening interest in town planning is a very fine thing for all of us. If town planning means that different constructive professions are to be able to come together to exchange viewpoints, it is going to be a very good thing for us. We must not forget the need of education. I think the question of local branches is very important. The central organization cannot do all the educational work.

MR. CAUCHON: There is no doubt of the need for general education among the people on the subject of town planning. Since 1909 we have been pounding away at the subject. Here in Ottawa the only way was by propaganda. At Hamilton and London I was requested to take the public into my confidence and prepare them for the schemes. I gave many lectures and talked a great deal. The report was presented. The public were better able to judge. The result was that the corporations and even the town council passed the scheme unanimously. At London the same request was made to educate the public. You are in a dual position; you must do the work and educate the public.

MR. SEYMOUR: Some of the previous speakers have referred to the matter of propaganda. I do not see any reason why the subject matter of succeeding meetings and legitimate propaganda cannot go hand in hand. What could be better than a talk on civic centres by Mr. Millson, who has successfully planned a civic centre for Renfrew; what better propaganda could we have for a civic centre?

Then, too, a paper by Mr. Cauchon on the relation of the steam railway to town planning, with Hamilton and London for example, and Mr. Challies could tell us at one of our meetings about water power development, with comprehensive planning of the whole project and architectural treatment of the power buildings. I believe that these concrete examples would be much better material for propaganda than anything that could be given of an abstract nature. I should like to take the opportunity to congratulate Mr. Challies on the stand he has taken with regard to power development under the supervision of the Dominion Government. While Mr. Challies is a member of the Engineering Institute of Canada, he has also the advantage of architectural training which is probably the reason for his interest in proper planning and architectural treatment of power development.

The thing that impressed me most in the Niagara frontier regional area was the apparent lack of planning in connection with the Hydro-Electric Commission power development. A $25,000,000 scheme is being carried out with practically no regard to its effect on the immediate locality. Niagara Falls, Ontario, is being made an island by the eight and one-half miles of open cut. This wide open gash will in some places have a depth from the ground surface to the level of the water in the channel of 100 feet. I understand that more than one engineer of international repute has claimed that a tunnel would have been more economical and as suitable from an engineering standpoint as an open cut.

But the point I wish to make is not whether a tunnel in this case would be better than an open cut, but that in deciding which should have been used, all factors, not merely the strictly engineering one, should have been considered, just as Mr. Challies is doing in connection with the Dominion power development.

Dr. Otto Klotz recalled, to the amusement of his audience, the story of Lord Kelvin, who, on a visit to the Falls in 1897, in connection with the meetings of the British Association for the Advancement of Science, said that he hoped to see the time when all the waters of Niagara Falls would be used for power and not a drop would go over the falls to waste.

Dr. Deville felt that some form of propaganda, or, at least, education for the public, was necessary. He gave as an example the case of a land subdivision in Ottawa, where he had been approached to have the necessary plan made. He negotiated with an Ontario land surveyor, and found out what it would cost to have the proper survey made and plans registered. The parties for whom he obtained the information seemed to be quite amazed and indignant at the price charged, and seemed to wonder why some of the doctor's assistants could not do this in their spare time in the office.

Mr. Alfred Buckley said he was conscious of a kind of distress by any disparagement of what had been called propaganda. He had spent some years at Letchworth, and had been greatly impressed by the sociological significance of the town planning movement. In Canada it had seemed to him that something more intensive was needed even than what was implied in the word education. He was disposed to use the word evangelism. As a mere question of policy, it was notorious that men's minds were often reached through their emotions, and psychology and sociology were sciences as well as town planning. Mr. Cauchon had argued that the basis of the movement was ethical, and the speaker agreed. He would risk a paradox by suggesting that the greatest of all forces was inertia. He was not blind to the need for professional organization and the correlation and co-operation of the different sciences involved, which were the machinery and executive of the movement, but a convinced people was necessary for progress, and there was an enormous amount of work to be done in Canada in this direction.

The chairman, in replying to the discussion, said he did not object to propaganda of the right kind. Education of the public by means of practical demonstrations of town planning was not only legitimate, but was the most effective means of carrying on propaganda.

◆

Good Architecture as a Profitable Investment for the Owner

Discussing good architecture as a commercial asset, a contributor to *The Improvement Bulletin* states:

There still remain in this world persons who believe that architecture is a purely ornamental profession—that the man who retains the service of an architect to plan and superintend the construction of a building does so because he wants a few additional artistic effects, for which he is able and willing to pay.

The increased cost of building materials has been a pronounced factor in educating the public regarding the true field of usefulness which the architect occupies. A score of years ago a few thousand dollars sufficed to build a large box-like structure, with a great deal of room, but with no architectural merit. Architecture played very little part in the vast majority of buildings built a score of years ago. But when costs multiplied, owners naturally devoted more thought to the underlying requirements of good building construction. The architect is on a very much higher plane than he was a score of years ago, and the public is beginning to have a growing conception of the important role the architect should play in the development of the country.

It does not require any considerable knowledge of architecture to appreciate the superior appearance presented by any community in which the services of an architect are utilized in the construction of new buildings.

There are still a good many small communities in the country in which the carpenter and the mason are consulted rather than the architect when a new building is to be constructed. The layman does not stop to consider when he encounters such a community whether the business and public buildings and the residences were planned by a competent architect. He merely knows whether the town is pleasing to the eye—whether it bears the mark of distinction that the prevalence of good architecture imparts to any community. The first impression that he gathers from his initial visit to a town is generally the lasting impression, and more than nine times out of ten it is correct.

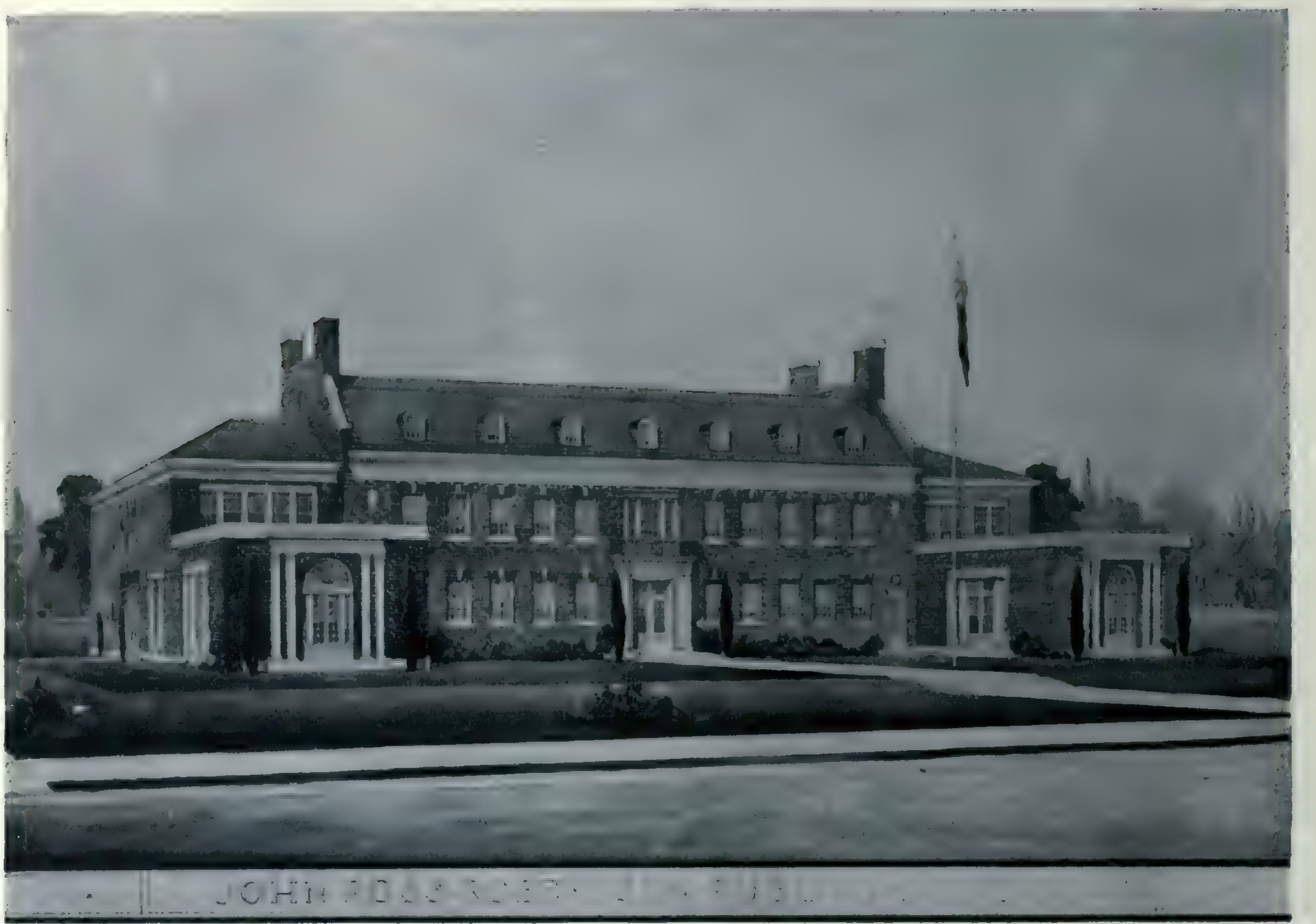
For it is usually true (probably invariably true would be a safe statement) that a town in which the representative citizens appreciate good architecture is a better town in which to live than a community in which scant heed is paid to the call of art. The citizens of the town in which the architect is called in to design business buildings and residences—even though the buildings be of small dimensions—have, as a rule, a wider intellectual horizon than men who believe that architecture is merely useless ornamentation, and that the carpenter and bricklayer can create a building of harmonious and attractive design.

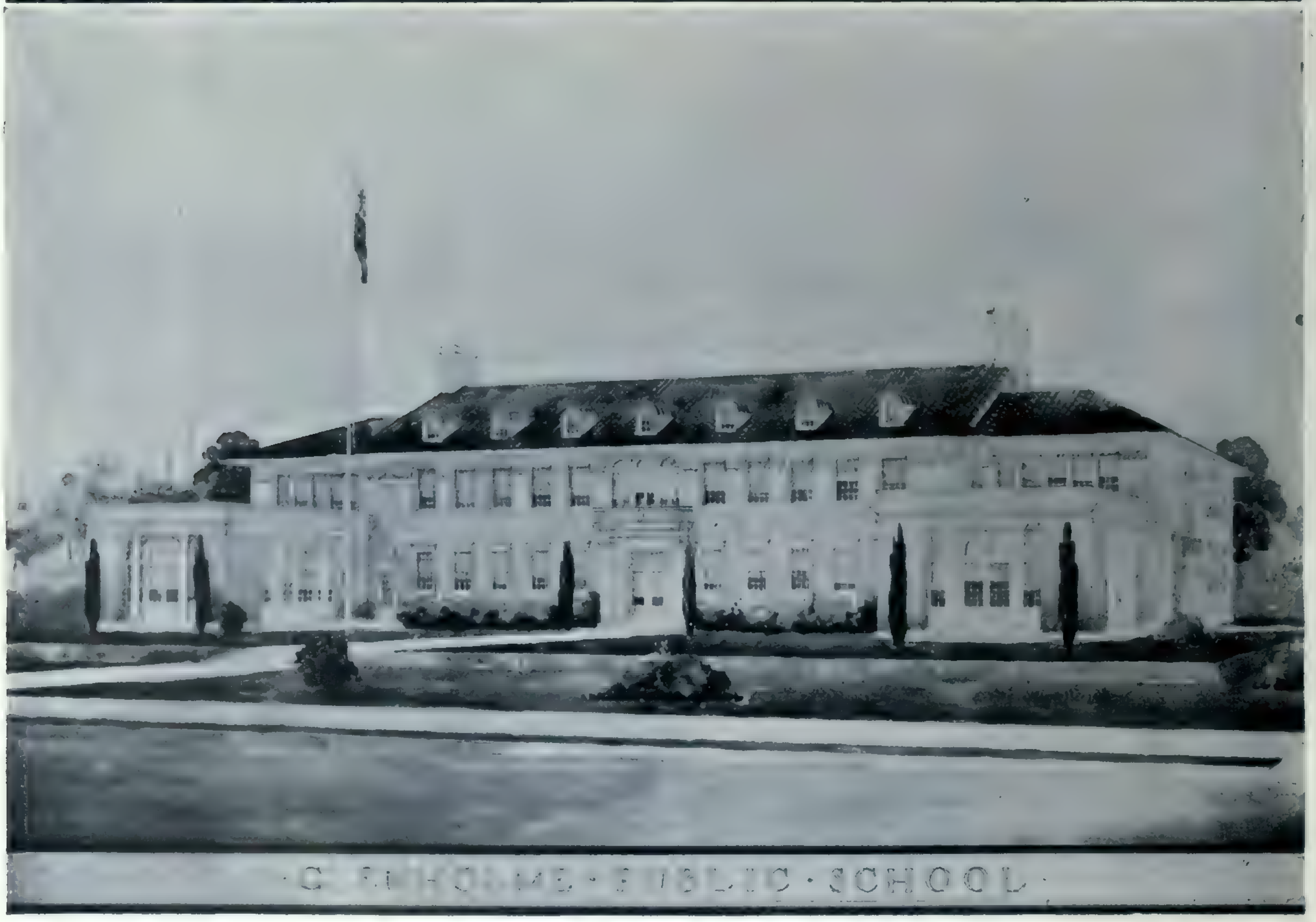
Then, again, it is true that the citizen who wants an architect to design his building is generally a shrewd and long-headed individual as compared with the man who believes in paring down expenses by eliminating the architect's fee. The architect who is master of his profession must not only plan a building of harmonious design, and attractive appearance, but he must keep constantly in mind the matter of practical every-day utility. There must be no waste corners in the completed building, the interior must meet modern requirements of light and ventilation, the heating plant must be adequate, and yet there must be no waste of material used either in construction or fuel. The building must be planned with close attention to the purpose for which it is intended, in order that the interior arrangement may be completed to the end that the owner, instead of finding after the lapse of a few months or a few years that there are many features of the building with which he is not satisfied, will have an increasing satisfaction in the ownership of the building.

Good architecture increases the value of a building. That is a point that the astute owner always keeps in mind. Five thousand dollars' worth of material built into a finished structure of architectural excellence has a higher market value than an equal or greater amount of material used in the construction of a building that is not pleasing to the discriminating eye, and is not arranged with a view to practical requirements.

◆

Toronto is shortly to have a theatre booking attractions on the Pantages circuit. Shares are now being disposed by a local syndicate and operations on the new playhouse, which will seat 3,500, are shortly to be started. It will be located on Yonge Street, just north of Shuter. There is also a possibility, owing to the Pantages coming into the eastern field, that vaudeville houses will be established at other points.

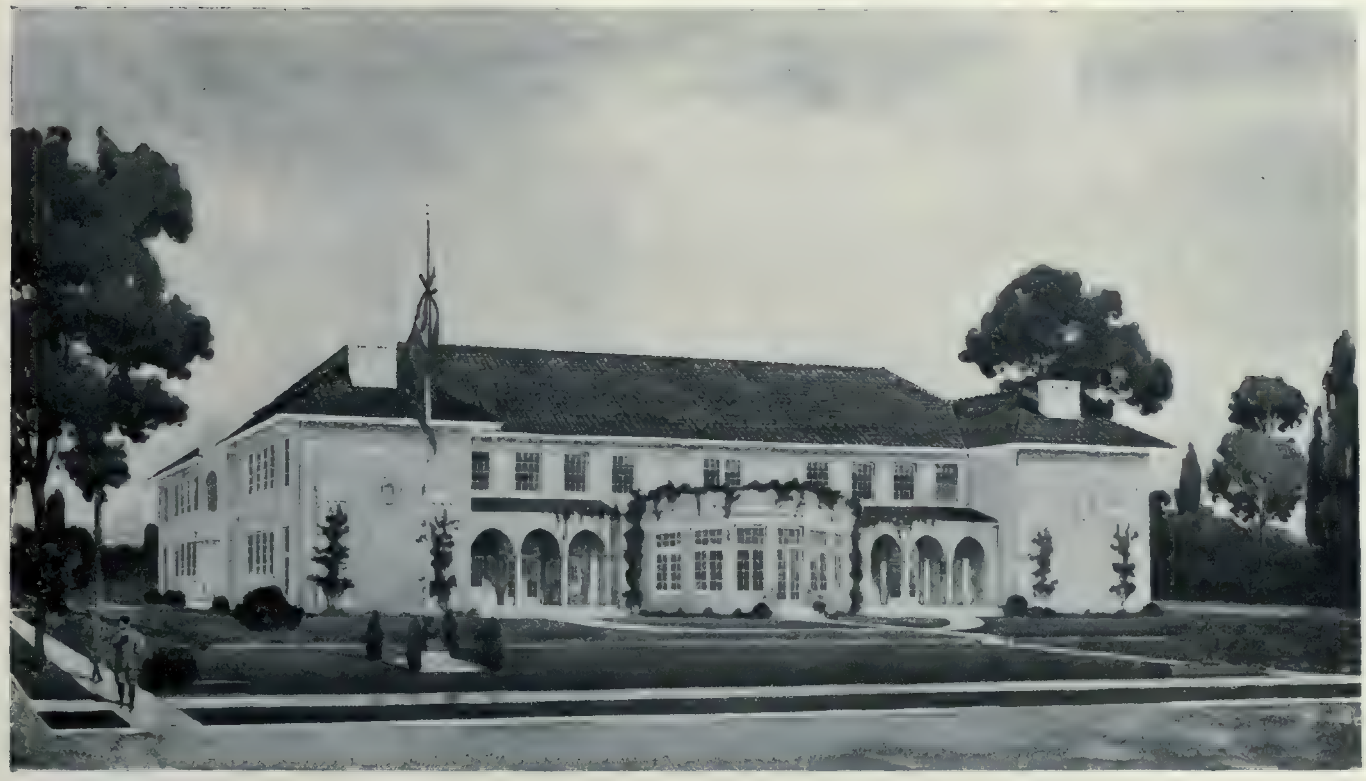




WINNING DESIGNS, TORONTO SCHOOL COMPETITION.

D. R. FRANKLIN, ARCHITECT.

(Plans not available.)



COMPETITIVE DESIGNS, JOHN ROSS ROBERTSON SCHOOL, TORONTO, ONT.

ELLIS & ELLIS, ARCHITECTS.

Toronto School Competition

IN presenting several of the twenty-one schemes submitted in the recent Toronto School Competition, it is a matter of regret that space does not permit of publishing the work of all the contestants. Moreover, it is rather an unfortunate circumstance that *Construction* is not able to show the plans of the two winning designs. This latter omission we can assure our readers is not due to any fault of our own, but rather to the fact that the successful architect objected to the use of his plans for publication. However, with the perspective of the two schemes selected, and the other competitive designs illustrated, it is at least possible in a general way to observe the degree to which the terms of the competition have been understood and interpreted.

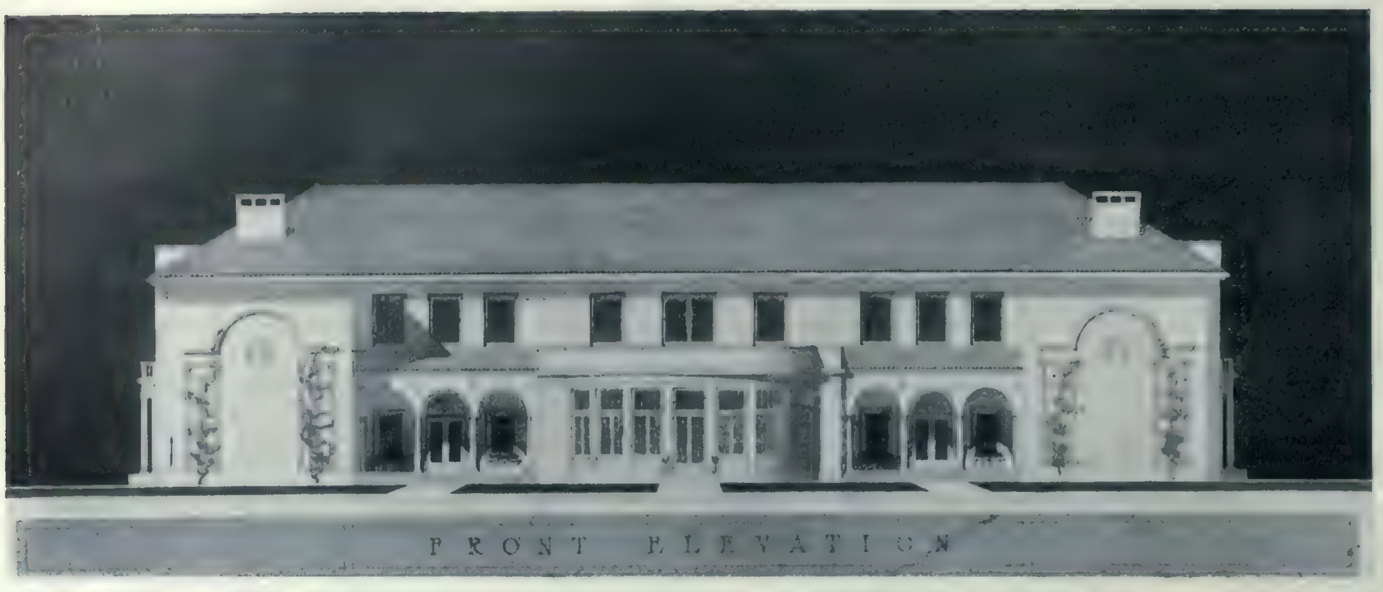
Both of the winning designs represent the work of Mr. D. R. Franklin, and provide for the erection of two modern buildings, viz., the John Ross Robertson School and the New Glenholme Avenue School. The former is designed in the Colonial style while the latter will be of an Italian Renaissance character. Although varying to this extent as to exterior treatment, the two structures, it is understood, will be identical in plan. Each school will provide eight class rooms, a kindergarten, a manual training and domestic science room, a principal's office and supply room, a medical inspection room and dental inspection room with adjoining waiting room, a teachers' rest room and a teachers' lunch room. The kindergarten and the manual training room are placed respectively at each end of the ground floor. These particulars as to accommodations were gathered from a brief description in the press at the time of the award, which we assume to be reliable. The fact that the top or third storey provides for a "social centre" or assembly, 30 x 80 feet in size, can hardly be regarded as other than a distinct deviation from the terms of the competition in that the conditions set forth expressly called for a two-storey building. Another objection which it is understood exists is the fact that the plan does not provide for a door direct from each ground floor class room to the school yard as the terms specified. Also the arrangement being the same in both buildings, in one of which the lighting for the class room will be east and west and in the other north and south, will make an essential difference in the orientation of the two schools.

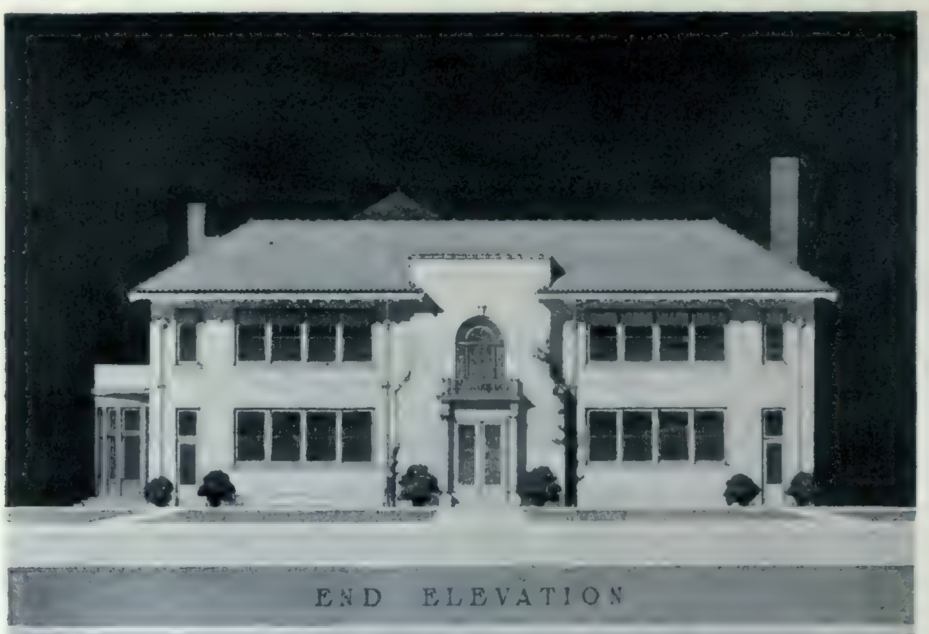
However, the purpose here is not one of criticism, but rather to present a comparative study of the designs, together with the essential features of the competition, which are as follows:

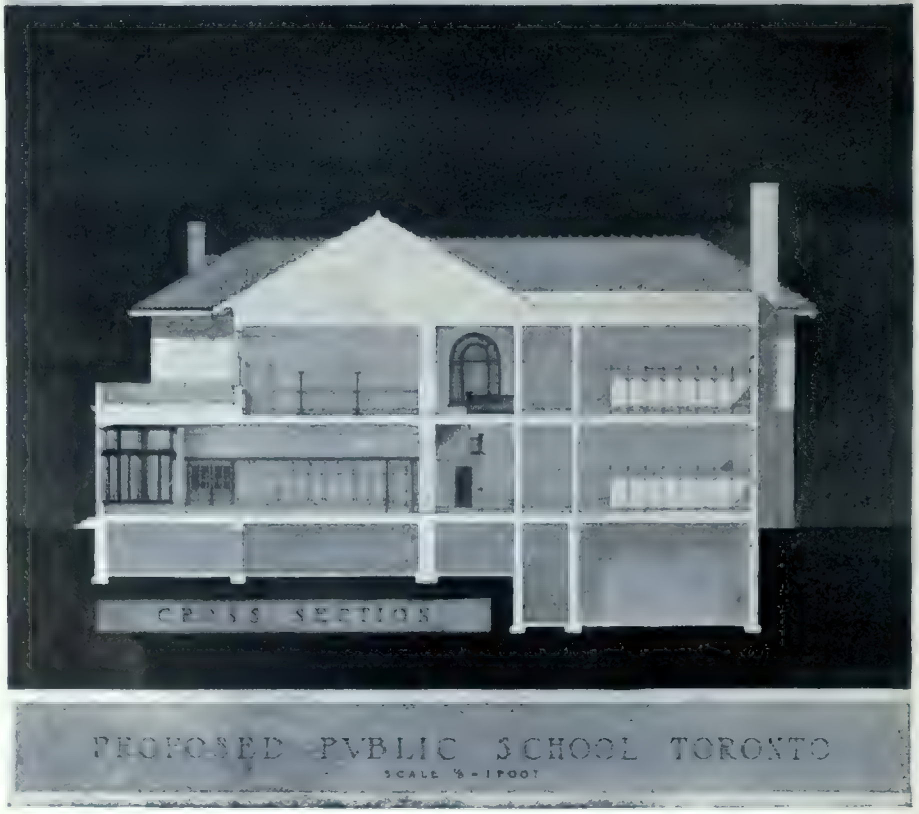
CONDITIONS OF COMPETITION.

The drawings requested were:

(a) Plan of each floor and roof.
(b) Sufficient sections to clearly illustrate the scheme proposed, including treatment of fthe principal rooms.
(c) Two elevations.

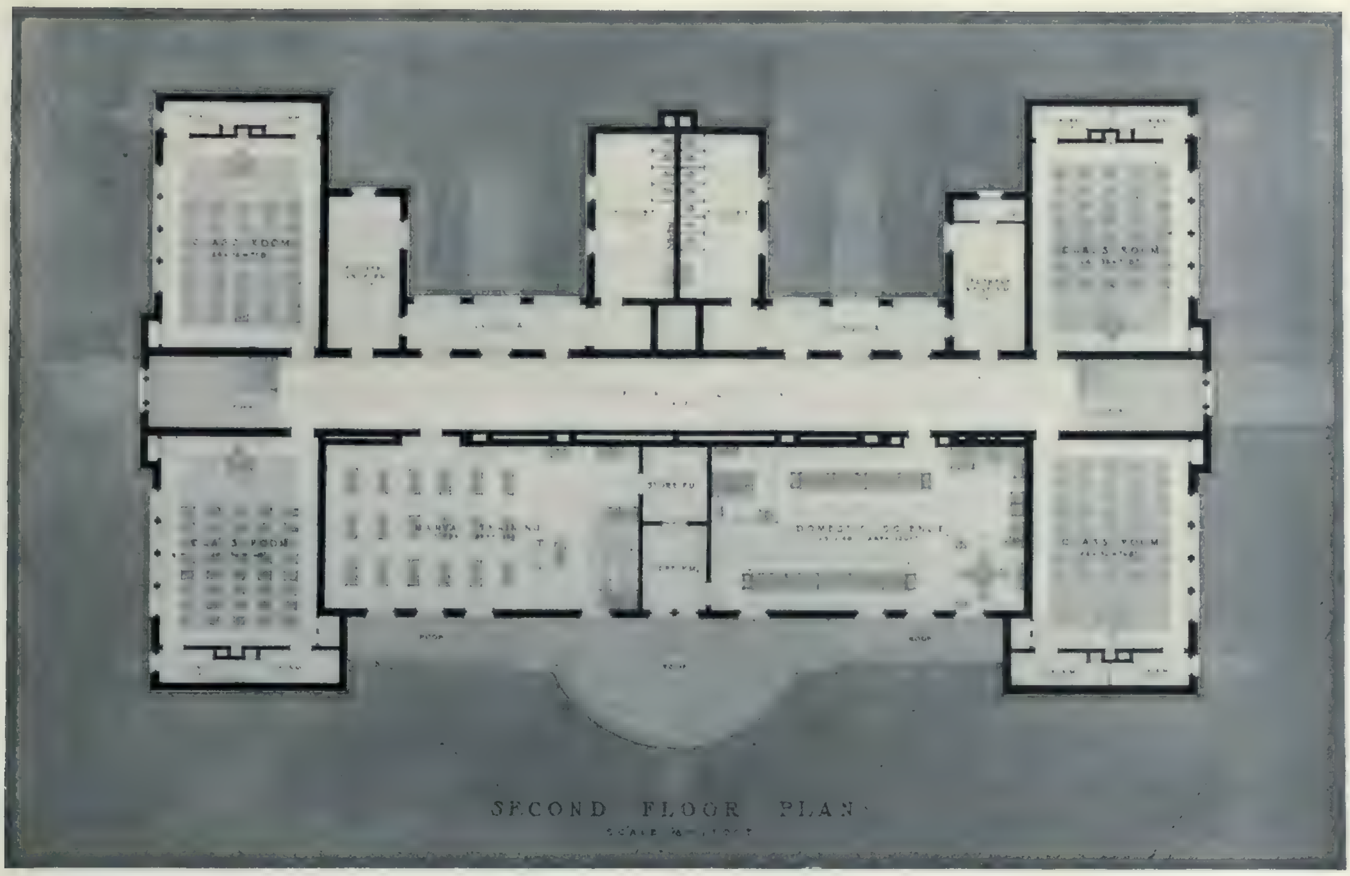






COMPETITIVE
DESIGN,
JOHN ROSS
ROBERTSON
SCHOOL,
TORONTO, ONT.

ELLIS
&
ELLIS,
ARCHITECTS.



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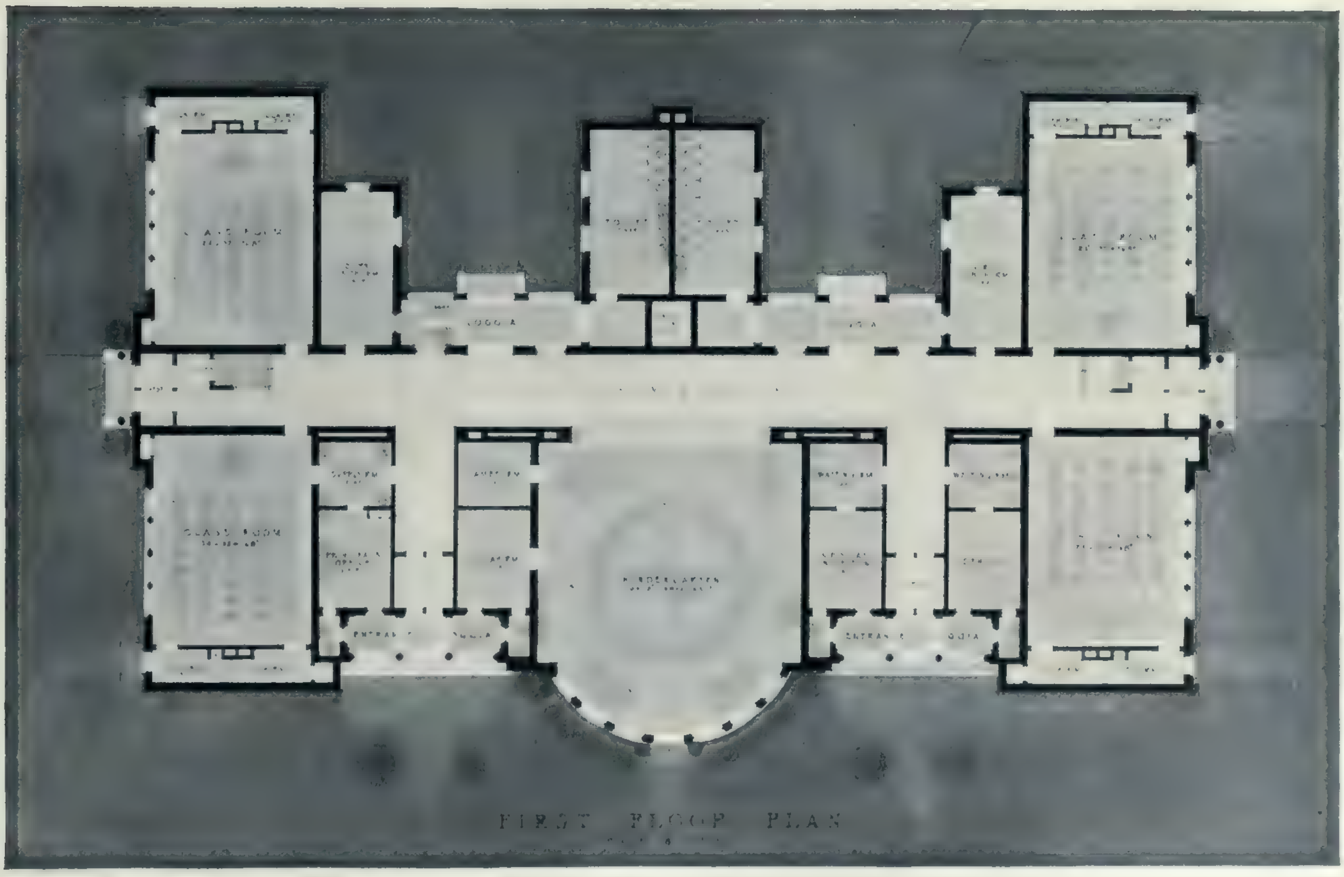
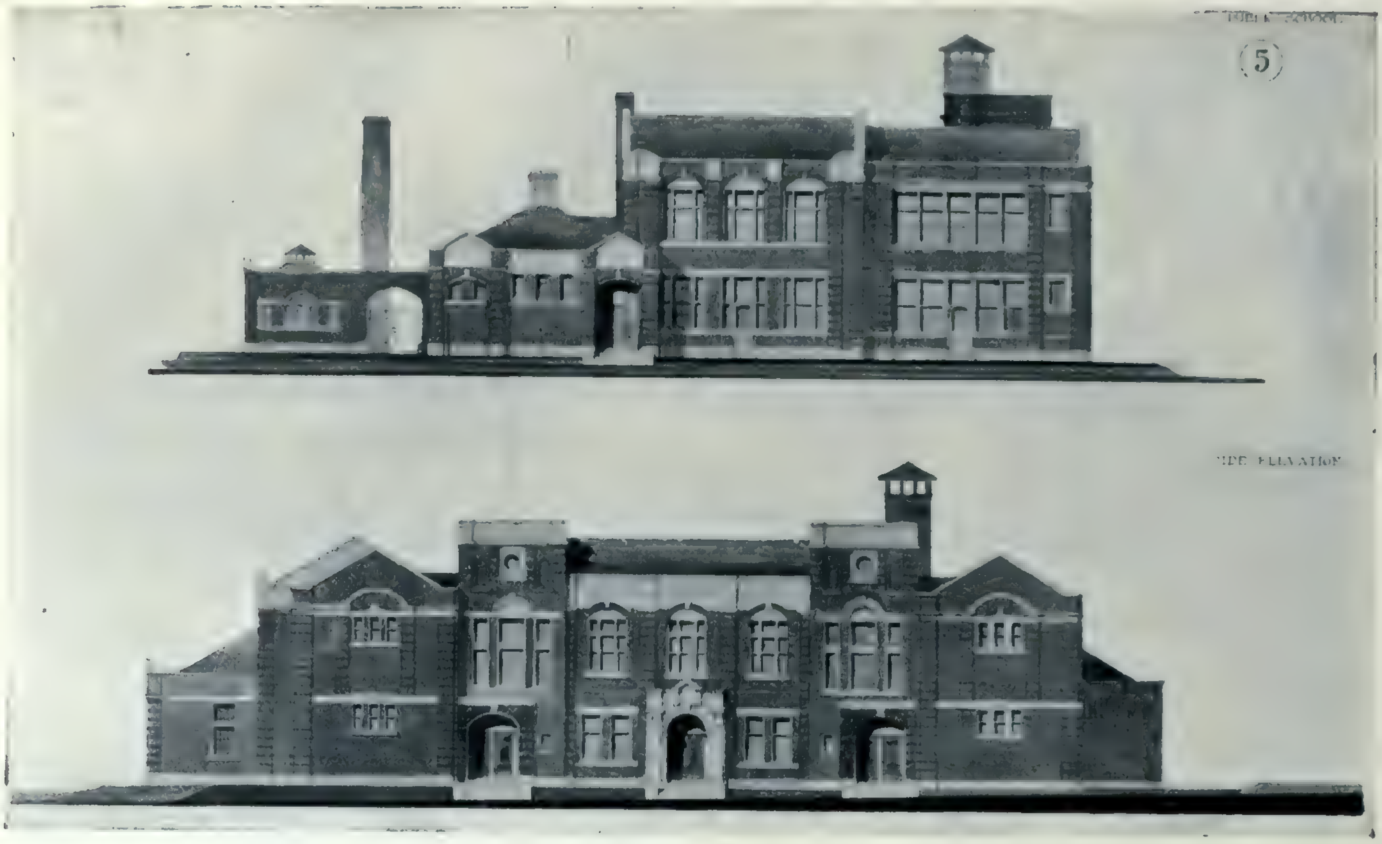
ELLIS & ELLIS, ARCHITECTS.





FRONT AND SIDE ELEVATIONS.

COMPETITIVE DESIGN, JOHN ROSS ROBERTSON SCHOOL, TORONTO, ONT.

GEO. W. GOUINLOCK & GEO. W. KING, ASSOCIATED ARCHITECTS.

(d) A perspective drawing with horizontal line taken eight feet above the ground level.

(e) Block plan showing walks or steps to each entrance door, and also showing driveways from gates.

The roof to be constructed so as to eliminate danger from sliding snow, a pitched roof being preferred if consistent with safety. The building to be two stories high and to have:

(a) Heating plant and lavatories outside the building.

(b) Basement ceiling seven feet in height.

(c) A door **direct** from each ground floor class-room.

(d) Eight standard class-rooms with cloak rooms.

A kindergarten room with a separate room for the games, gifts, etc., on the ground floor. Kindergarten to be arranged so as to permit of it being combined with corridor spaces for assembly purposes. Lavatories to adjoin kindergarten cloak-room, with closets and wash-basins.

A manual training room, to include two wash basins and gas connection for glue heater.

A household science room, to be subdivided by partitions of light construction, about 7 ft. 6 in., to provide spaces suitable for bed-room, dining-room, kitchen and laundry, included in space allowed for kitchen, one side of said room to be opened to the main space, which will be used for general instructions, sewing, etc. Kitchen to be provided with two laundry tubs and one sink. Location for one coal range to be shown

A Principal's office and supply room on the ground floor, and adjacent to the Principal's class room.

One medical inspection and one dental inspection room, and a waiting room convenient to both, on the ground floor.

Teachers' rest room and library combined.

Teachers' lunch room.

Fireproofing.

The walls and floors of the corridors and all stairs to be of fireproof construction. Wood joist may be used for the class rooms, etc.

Basement to contain store-room only.

It is also provided that the plans and specifications must comply with the regulations of the Ontario Department of Education, published in 1915, the regulations of the Department as to manual training and household science published in 1916, and with the building by-laws of the City of Toronto.

Total cost of each building, according to the conditions, not to exceed $100,000.

The plans were judged by a committee of the Board of Education, and no professional assessors were appointed. Descriptions of the other schemes presented are as follows:

Ellis & Ellis' Scheme.

The style of architecture is Italian Renaissance.

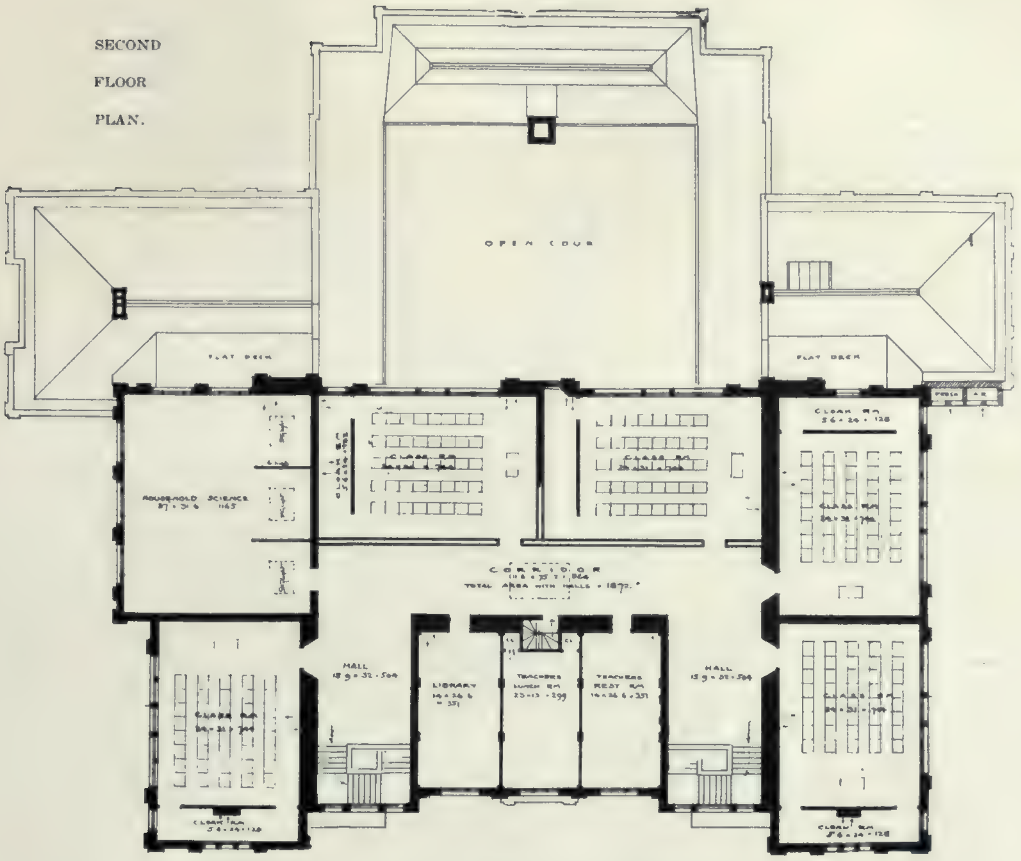
The first floor has a central feature in the large kindergarten room connected to the main corridor by collapsing doors, thereby giving an auditorium adequate to accommodate the various meetings created by the requirements of a social centre, making the school a ratepayers' building, which can be used to advantage for community meetings.

The kindergarten room is supplied with game room, cloak room and lavatory, with a direct outlet to the grounds, the latter being a feature of all class rooms on the lower floor.

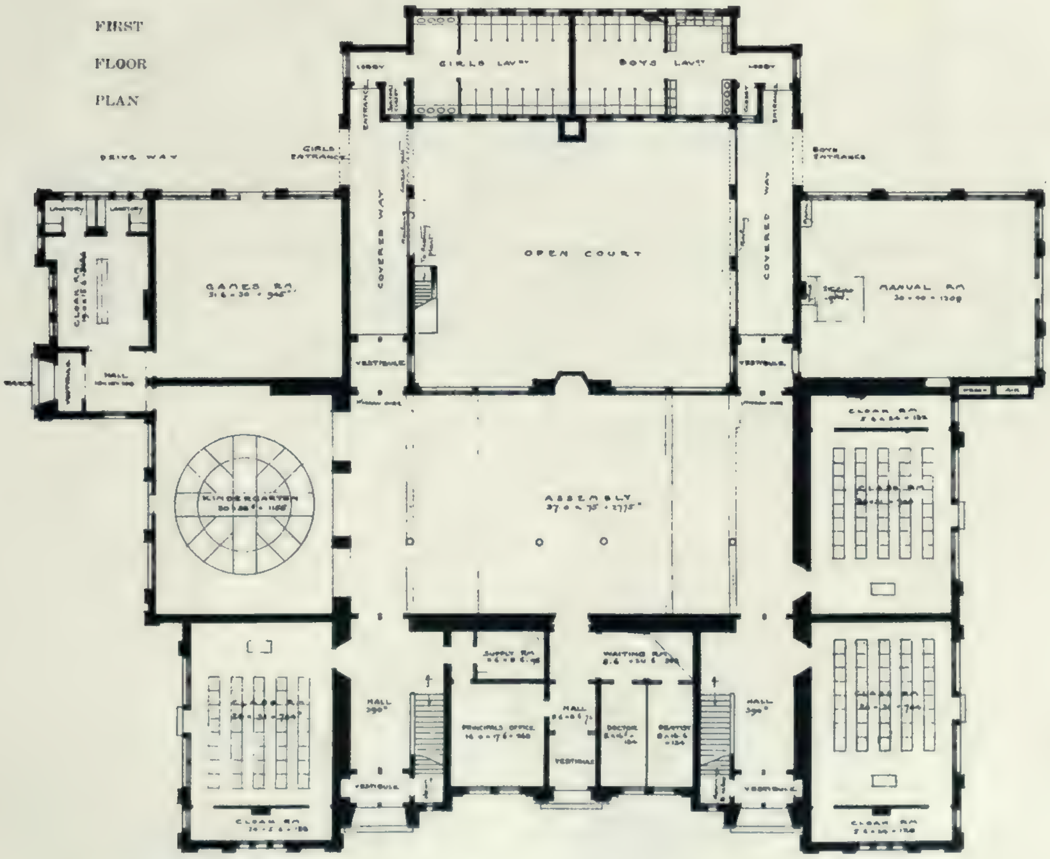
On either side of the kindergarten room are the main entrances, one leading to the principal's office, with its waiting room, which connects directly with the principal's class room. The other main entrance leads to the waiting rooms of the medical inspection and dental rooms; each of these departments has a private lavatory. On this floor there are four standard class rooms, also boys' and girls' lunch rooms.

The sex entrances are from either end of the main corridor, with vestibules from which the stairs to basement are placed. The stairs to second floor are also located at either end of this corridor. Direct lighting on the side of corridor provides and ensures a bright and well ventilated condition. From this corridor are also the exits to loggias which connect to the lavatories and playgrounds.

SECOND
FLOOR
PLAN.



FIRST
FLOOR
PLAN



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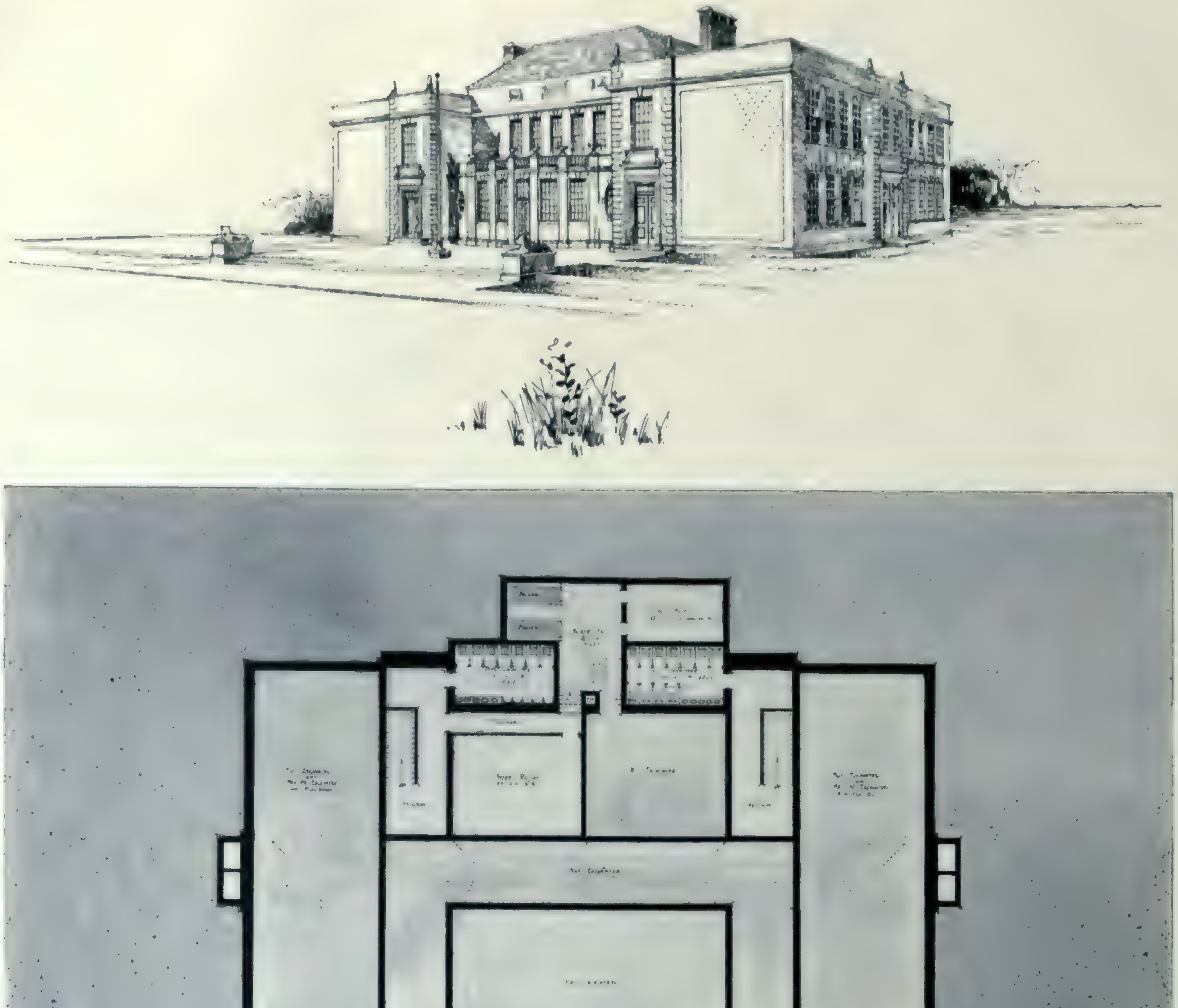
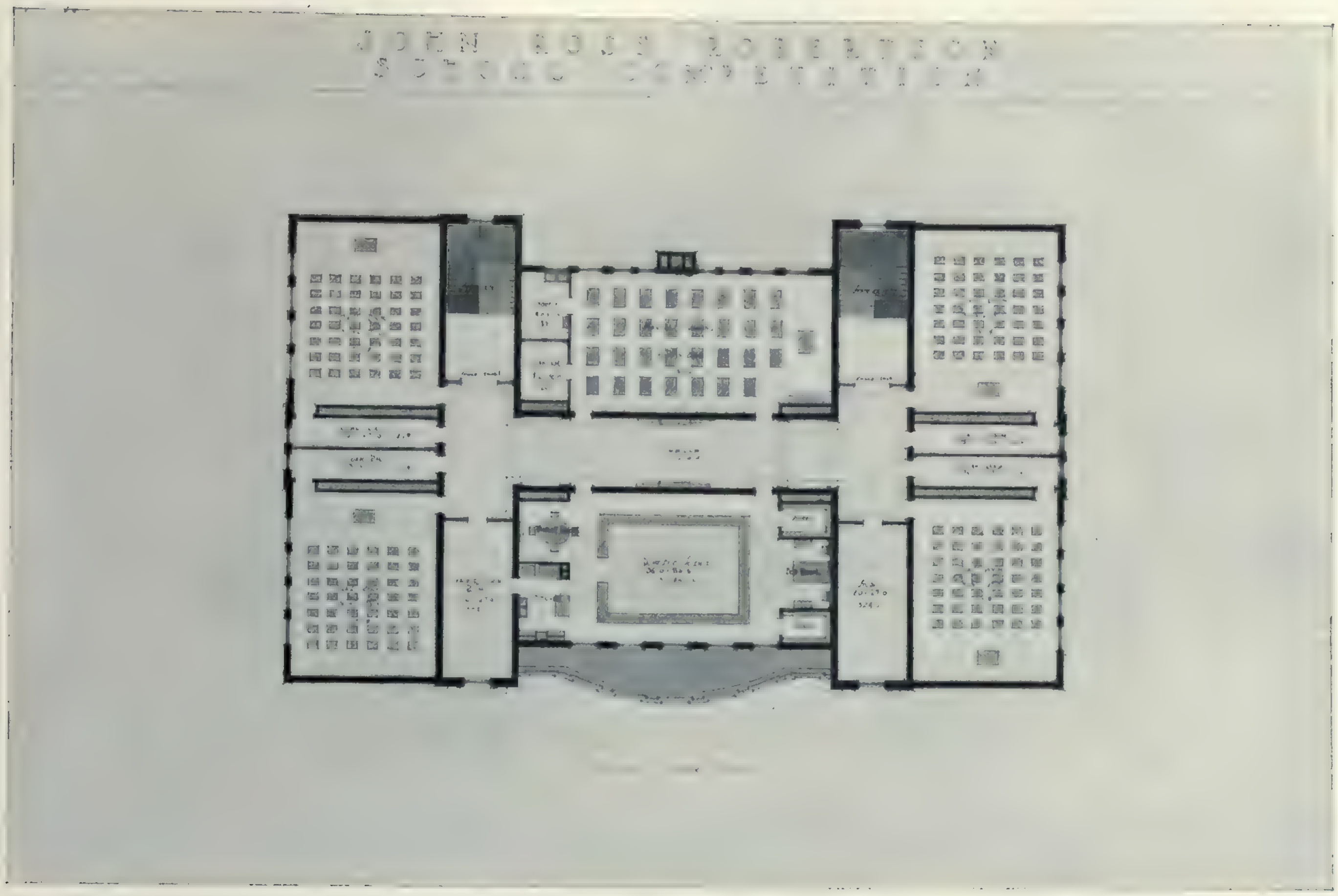
GEO. W. GOUINLOCK & GEO. W. KING, ASSOCIATED ARCHITECTS.



COMPETITIVE DESIGN, JOHN ROSS ROBERTSON SCHOOL, TORONTO, ONT.

HUTCHISON & WOOD, ARCHITECTS.



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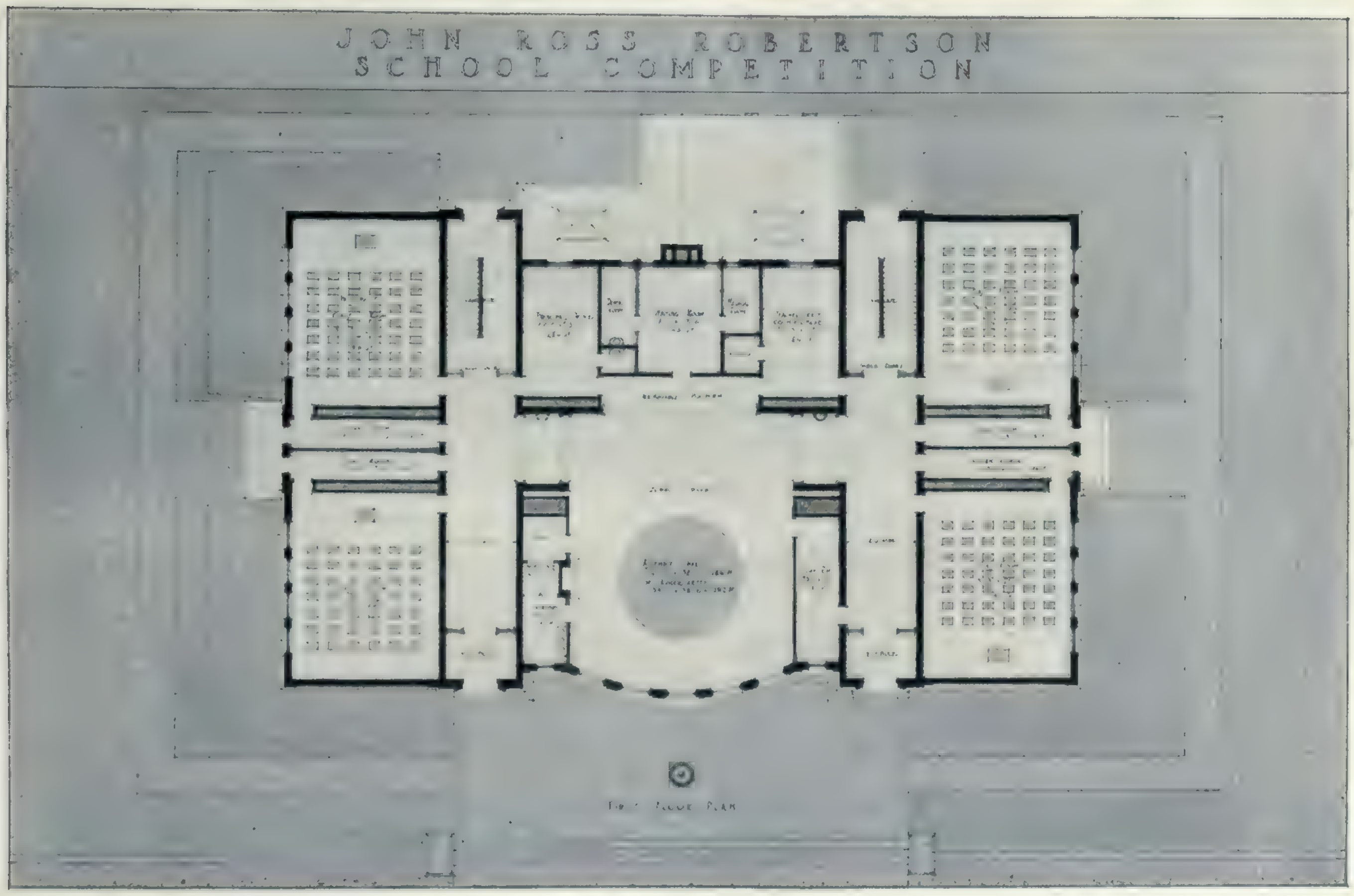
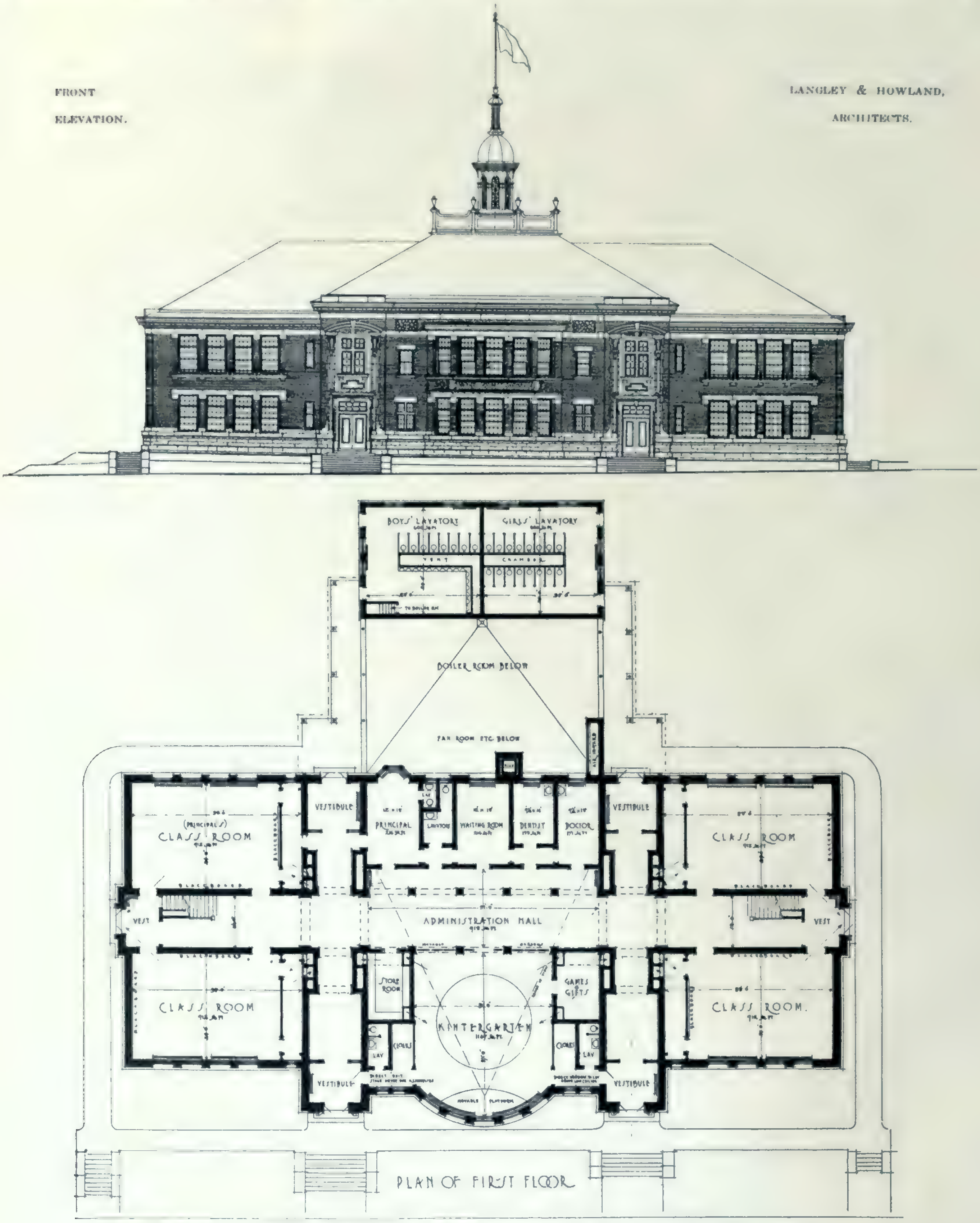


On the second floor there are four standard class rooms, manual training room with the necessary lecture and storage rooms, household science and demonstrating rooms, teachers' rest and lunch rooms with private lavatory, rear entrance to loggias connecting to children's lavatories, etc.



COMPETITIVE DESIGN, JOHN ROSS ROBERTSON SCHOOL, TORONTO, ONT.

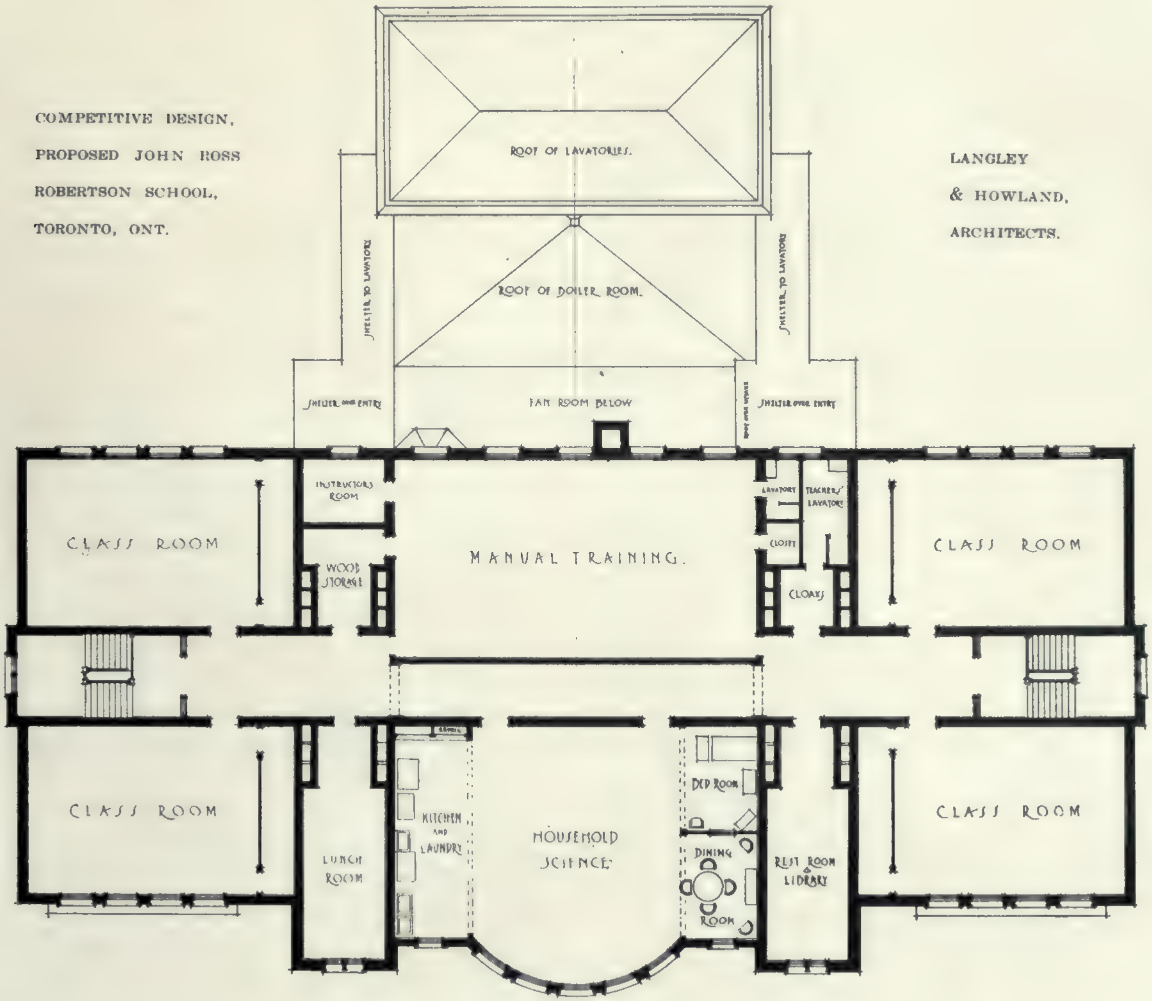
The basement contains unallotted spaces which can be utilized in future for plunge and shower baths.

Fan and fresh air room are under the main building, and the boiler room under toilets. The fuel room is under the school yard, located so that coal carts can drive over it and dump the coal direct into the fuel room.

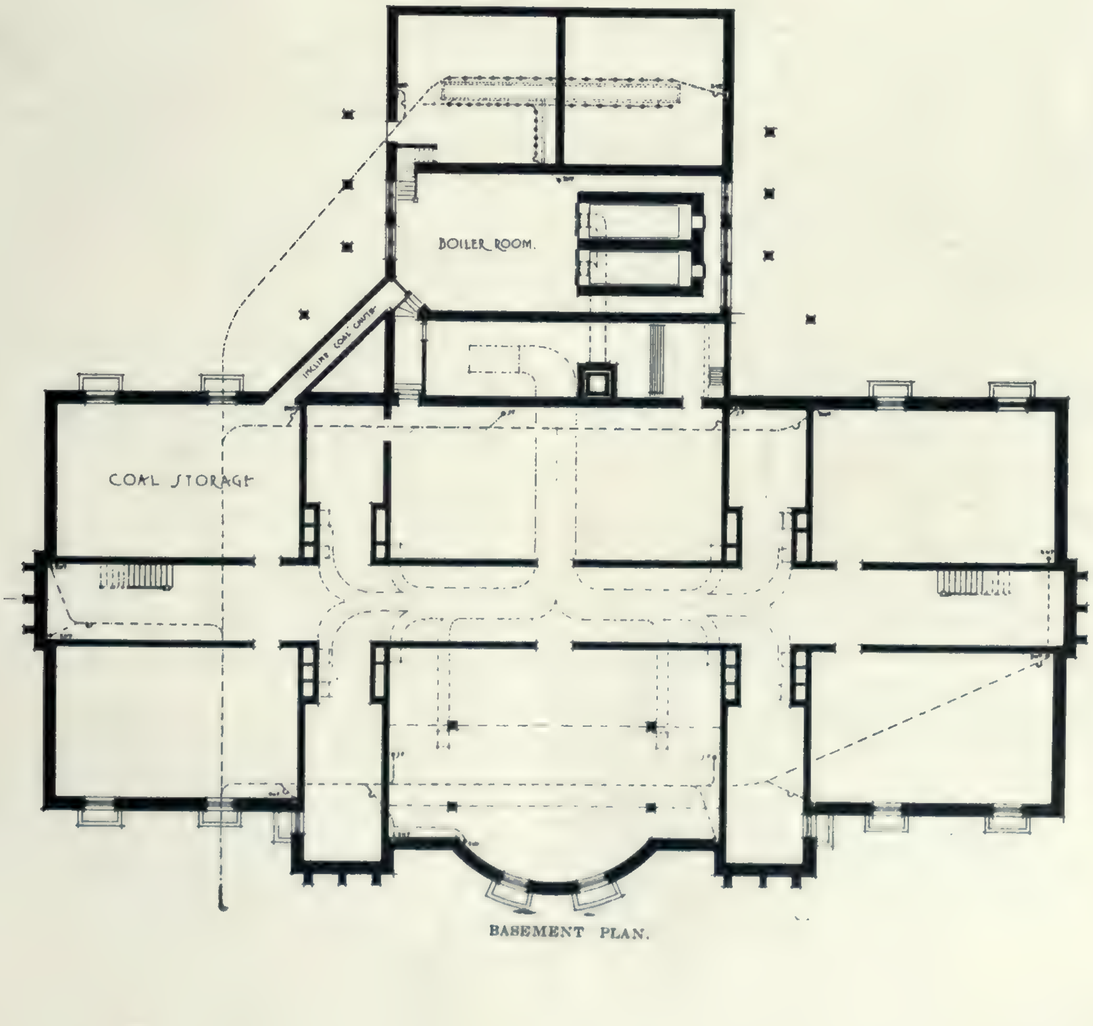
An ash hoist is located adjacent to the boiler

COMPETITIVE DESIGN,
PROPOSED JOHN ROSS
ROBERTSON SCHOOL,
TORONTO, ONT.

LANGLEY
& HOWLAND,
ARCHITECTS.



SECOND FLOOR PLAN.



BASEMENT PLAN.

room to facilitate the loading of ashes direct from the boiler room floor to the garbage waggons.

Construction.—The basement and foundation walls are of waterproof cement concrete construction. The floor also will be waterproofed so that no dampness whatever will permeate the walls or floor. The superstructure to be built of hollow tile, both the interior and exterior surface to be corrugated to receive the plaster and stucco.

The exterior stucco to be cement tsucco waterproofed and applied so as to give a rough surface. When dry the whole of the exterior to be coated with stone-tex in a tint to comply with the architect's decision. This coating will become an integral part of the cement and will be permanent.

The corridors, lavatory floors, to be finished in marble terazzo. The fuel room cover to be of reinforced cement concrete. All warm and foul air ducts to be built of solid masonry, as also will the walls of all rooms. The stairs to be of steel with non-slip tread.

Ordinary class and other room floors, framing to be of Southern pine or B.C. fir joist construction. All ceilings to be lathed with metal lathing.

Plastering to be three coat work and finished with hydrated lime to a smooth gloss. Dados to be of Keene's cement applied so as to permit of being washed.

All blackboards to be of rock slate both at teachers' end of class room and on the blank walls of ditto.

Trim to be of southern long leaf pine "finished natural." Dust ledges to be eliminated as far as possible. Doors to be of the slab type with glass sectio nto permit of principal's supervision without entering the class rooms. Flooring will be double with deadening felt between. The wearing floor to be end matched T. & G. maple.

The hardware trim throughout to be of Canadian manufacture, "bronze." Panic bolts provided to all exits. All class rooms to be equipped with a special lock, rendering it impossible for anyone to be locked in the building.

Roofing to be red tile.

Provision will be made to absolutely prevent snow sliding.

Heating and Ventilating.—The heating will be by the two-pipe system, using steel tubular boilers of the most approved design. Direct radiation to positively ensure of a temperature of 70 degrees when 10 degrees below zero on the outside.

Radiators to be plain hospital type cast iron. Ventilation to be a pleneum or forced ventilating system. The fresh air to be taken from above the roof, warmed, washed, tempered, and humidified before it is passed on into the various rooms. Thirty cibic feet of this air will be delivered to each occupant of the building per minute. Cloak rooms to be ventilated by separate ducts, and lavatories to have a separate system of ventilation.

DESIGN OF GEO. W. GOUINLOCK & G. W. KING, ASSOCIATED

The design is for a two-storey building without basement, the cellar only being used by janitor and for heating and ventilating pipes, electric vacuum system, dust receivers, storage and chairs, etc.

There are four street entrances, and two to playgrounds and lavatory building. On Glengrove avenue there is a centre entrance to vestibule, waiting room, principal's office and medical and dental inspection rooms, with doors to assembly for visitors. Also from Glengrove avenue there are two other entrances through vestibules and short staircase hall to doors of assembly for boys and girls, respectively.

The assembly, which 37 ft. x 75 ft., would seat over 400 and provide space for platform and aisles besides, and can be used as such, or as a play room, general assembly or -extra class room, as direct light is obtained all along east side. There would be large windows over each playground door in addition to what is shown.

The kindergarten has been placed at west side with folding doors between it and assembly. The position of this room has been chosen for two reasons: first, to give abundant light for the assembly; and secondly, so that the games room, cloak room and lavatories adjoin with separate entrance to kindergarten playground and side road direct, without the elder pupils crossing or coming in contact with the infants.

This arrangement, together with the large assembly, short staircase and entrance corridors, is the principal feature of the design, there being no waste space.

The manual training room is isolated—the entrance is from boys' vestibule to playground. The south division wall contains the flues, and is a double wall. There is no cellar underneath, so that no noise would reach the clas srooms.

There are eight standard class rooms, three on the ground floor with direct exits, and five on first floor, on which is placed the household science room, library, teachers' rest and teachers' lunch rooms. The corridors on this floor are well lighted and ample, but without any waste space.

On the east side of the assembly on the lower floor, are the boys' and girls' exit to playgrounds which are reached through the vestibule and along a short covered way. These covered ways, although quite open to the outside air, also provide access protected from rain to the separate lavatory building, the entrances to which are thus shielded and made as private as possible, and also without being inconvenient for pupils coming from playground. Externally the lavatory building would appear a part of the school, so with these features embodied as planned no objection can be raised to the isolated lavatory building.

In this plan the service yard forms an open court where separate stairs are provided to reach the heating plant placed under same, and which consists of office, boiler, coal and fan rooms. Removal of ashes is provided for by hoist on north side of boilers. Skylights give ample light to all parts except fan room, which is tightly closed by double doors and lobby.

Construction.—Brick walls in cement mortar. Natural or artificial stone or terra cotta dressings. Selected face brick. Tile backing and partitions except for walls of the two east class rooms over assembly which would be double of metal and plaster.

Glazed brick dado five feet high with coved base to ground floor halls and up staircases, assembly and manual rooms. Walls above plaster.

Floors and ceilings of halls to be fireproof. Class rooms to have wood joists.

Finished floors—cellar, concrete with damp course throughout. Ground floor vestibule and staircase hall, infants' lavatory—quarry tiles. Lavatory building—asphalt. Class rooms—wood finished with battleship linoleum. Assembly and manual training room—wood block floor, end grain, oil finish. Principal's office, waiting, medical and dental rooms—five-eights inch oak filled and waxed.

Stairs to be concrete with non-slipable treads and wood hand rail secured to glazed brick guard walls. Walls above brick dado to be of plaster. All suspended ceilings and those under wood joists, metal lath and plaster.

Trim—pine where required, but omitted as far as possible. Coved dust piece tongued to base. Oak trim, doors, etc., for administration offices.

Plaster walls and ceilings tinted. Those of assembly, offices and class rooms, stencilled border as frieze.

Heat would be provided by two steam boilers; one used for ordinary weather and supplemented by the other for extreme cold weather. These would also be made interchangeable to allow for repairs. The circulation would be by a two-pipe vacuum system having pump. Moderately tempered air driven by fan would supply all rooms, with exhaust foul air flues to roof space where there would be ducts from same collected and run to south-east tower where an exhaust fan is placed discharging in the secondary tower shown on elevation. Besides the heated air, radiators would be placed under windows of rooms and thermostatically controlled. The radiators placed in vestibule halls or corridors would be recessed.

LANGLEY & HOWLAND'S PLAN.

The requirements, beside corridors, etc., give six main subdivisions on each of the two floors: four class rooms, kindergarten, and administration group, on first floor.

The four class rooms on this floor, and the four above, are laid out in the standard manner, as to lighting, heating and ventilation, cloak rooms, cabinets, umbrella racks, blackboards, etc.; and the demand for direct doors to yard has been met in a practical way, with the necessary vestibule protection, without adding unnecessarily to the number of external doors, and in such a way that the two rear exits are left entirely for the pupils on the second floor in case of emergency.

The basement, as desired, contains nothing in the way of facilities; but it is suggested to make use of the north-west room as coal storage, communicating with the boiler room by means of a concrete chute.

The fan room, fresh air intake, boiler room, smoke stack, and ash-hoist are all grouped in the rear. This arrangement should result in elimination of disturbance from the plenum fan in the school building.

Since the seven-foot basement is not to be made use of in a general way, it may not be objectionable to run the trunk lines of fresh air ducts above the floor; it is suggested, however, that they might be of concrete, below the floor.

The roofs of fan and boiler rooms are just below the ground floor window sills, this elevation above the pavement giving good light and air.

The Kindergarten is made the central feature of the group with broad bay to the south, the direct external entrances answering as stage approaches and exits for assemblies. And when thrown widely open by means of the collapsible doors, the Administration hall, with its colonnade, and "aisle" beyond, are added to the range of view and sound, and an unusually spacious auditorium is thus created.

The cloak rooms, lavatories, store room for "games and gifts," and store room for supplies opposite the principal's room, group around the Kindergarten without loss of space. If it were considered essential that the games and gifts room should be at the outside wall, it could take the place of the lavatory and cloak room on west side, they being arranged with the other lavatory and cloak room on the east side.

The Administration group of rooms fit in well beyond the Colonnade, and form a complete suite of private rooms, intercommunicating, as might be found desirable on occasion.

In addition to the four standard class rooms on the second floor, there are the Household Science room over the Kindergarten, with its typical room alcoves, and the Manual Training room to the north, with its accessories; also Lunch room, Rest room and Library, and Teachers' lavatory and Cloak room.

The exhaust fans are placed in roof-space over the Manual Training room, where they would not disturb the work below.

The proposal as to external materials is grey-white stone (say Indiana or Ohio) and best quality of dark red stock brick, laid in a broad white joint—a bold stone base to the height of ground floor sills, and above this the brickwork to the frieze of cornice, where the stone occurs again. The two entrances are enriched with a simple but ecective stone treatment, and lintels and a few other touches of stone complete the scheme.

The "pitch" roof is of slate, the small central portion being flat, with a balustrade and ventilation cupola as indicated. The cupola seems the logical and sightly way to dispose of the foul air discharge for a pitch roof scheme, especially in case of concentration, and exhaust fans.

The question of cluster or separate windows and wood or metal frames and sash were considered.

Separate windows are indicated and perfectly good lighting results are obtained, and a much better "scale" is kept in the design, the cluster windows tending to a loss in solidity in appearance and a look of thinness to the wall.

Should it be decided to finally use a flat roof, a parapet wall will render this design suitable for it.

Heating.—The combination system of steam local radiation, with fan-driven, steam-heated warm fresh air for class rooms, is proposed. There seems little doubt that the two-pipe steam system with vacuum pump is ultimately found to be the economic and efficient one for schools; the distribution of vapor, with no pressure on, ensuring an even heat, though a mild one, throughout the building.

Sloping glass plates standing on the window sills to deflect upward the incoming air from open windows is a useful device to prevent draughts from annoying scholars on that side of the room.

It is found that there is at times a complete upset of plenum fan supply of fresh air when windows are open, which is occasionally necessary, and the remedy for this is to make the exhaust positive as well as the supply. An exhaust fan is therefore put in the roof-space for this purpose in the main exhaust duct.

No plenum air is discharged into any lavatory or such room, but all local vents including that from main lavatory vent chamber, are gathered into one central pipe and discharged by a separate exhaust fan through upper part of cupola. The main lavatory vent could be carried up in conjunction with the boiler stack as far as roof-space, and in this way receive the heat impetus, in addition to the fan.

The competition was of special interest in that it represented the first consideration given to architects in many years as regards the erection of schools in Toronto, and we believe our readers will agree that each of the various schemes strikes an architectural note conspicuously about the standard of the work done by the Board of Education's own building department.

Absorbs Namesake Concern

The Corrugated Bar Company, Inc., of New York, announces that it has taken over the entire assets and liabilities of the Corrugated Bar Company, a Missouri corporation, and is continuing the business of the latter company, which is in process of dissolution.

This means the retirement by purchase of the Garrison interests, which held the majority of the stock of the Missouri corporation from its inception, in 1891, until the recent reorganization. The control now passes to A. L. Johnson, who has been connected with the company since July, 1895, Mr. A. E. Lindau being general manager of sales. The company is well known in the Canadian field, having maintained an office here for several years, and is at present represented by Mr. Frederick Reed, formerly Editor of "Construction," who is well known to the building fraternity.

A Novelty in Doors

One of the exhibits at the Model Homes Exhibition now being held at London is a door of novel construction, which has been patented in Great Britain under the name of "The Receivador." The door is a double one, and is constructed with compartments into which tradesmen may insert parcels without disturbing the occupier of the premises. Inside the house another door gives access to the compartments, and the mechanical feature of the contrivance is an alternating interlock, which makes it mechanically impossible for both the outer and the inner door to be open or unlocked at one and the same time.

When the tradesman, after inserting his package, closes the outer door of the compartment and turns the knob, this action automatically locks the outer door and unlocks the inner door. When the occupier removes the package and closes the inner door, the latter in the same manner is locked and the outer door unlocked. The doors and locks are being manufactured in Nottingham, and the inventor claims that his idea completely revolutionizes shop-to-home delivery service.

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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

Entered as Second Class Matter in the Post Office at Toronto, Canada.

WESTON WRIGLEY, Business Manager
FRED. T. HOLLIDAY, Advertising Representative

Vol. XII Toronto, July, 1919 No. 7

R. A. I. C. Meeting and Exhibition

The war to a great extent disorganized the annual display of architectural drawing at the Canadian National Exhibition, and it is not likely that this year will witness anything of a representative character showing the work of architects. However, it is proposed to hold a public exhibition of architectural drawings in connection with the next assembly of the R.A.I.C. which will meet conjointly with the Ontario Association of Architects some time in October, probably the last three days of the first week in that month. The exhibition will be held for a period of two weeks either at the Toronto Art Museum or in the Public Library providing satisfactory arrangements can be made. It is also the intention to devote a day during the meeting to public lectures on architecture. Final details of the programme are now being worked out, and a more definite announcement will shortly be issued both as to the lectures to be given and the subjects to be discussed at the convention. The Institute is certainly to be congratulated in extending the scope of its usefulness. An exhibit such as is contemplated should prove an inestimable feature in connection with the assembly, while public lectures on architecture are not only to be desired, but are something which should be of more regular and frequent occurrence. If such was the case, a better and more sympathetic understanding would exist on the part of the public as regards the profession and what constitutes good design.

◆

Peace Greetings from R. I. B. A.

The celebration of Peace was made the occasion of an exchange of greetings and felicitations between the architects of Canada and Great Britain. A message received by Mr. F. S Baker, Honorary Secretary for Canada of the Royal Institute of British Architects, read as follows:

"Kindly communicate warmest greetings Canadian Architects, from R.I.B.A. Congratulations, victorious peace.

"J. W. SIMPSON, President."

To this President Wickson of the Royal Architectural Institute of Canada immediately cabled an equally appropriate reply.

The architectural fraternity has indeed distinguished itself in many ways, but in no respect has it done greater service than in the splendid support which it gave to the Empire in the trying period which has just closed. Therefore the messages were of special significance and give a striking instance of the warm feeling of confraternity which exists between the professional members of both countries.

◆

Park Land and Housing

An application for an order to restrain the Toronto Housing Commissioners from building on the Webb property in West Toronto has been made before Mr. Justice Kelly at Osgoode Hall. The complaint cites a resolution of the City Council, dated July 4th, favoring the transferring of the property from the Housing Commission to the Parks Department for park purposes, and the expropriation of said lands if necessary.

In view of the imperative need of houses, it seems somewhat unfortunate to have this important work interfered with or delayed. On the other hand, it is doubtful as to whether property available for park purposes should be acquired for housing if other properties can be secured. The whole thing seems to point to the need of some central body such as a town plan ning board having jurisdiction over the general development of a community, to pass on the question of sites.

Mr. Justice Kelly recognizes that the case is one that requires careful consideration, and will listen to further arguments on July 24th before giving his decision. A motion to quash the by-law giving the Housing Commission its present authority will be heard at the same time; but it is doubtful if the motion will be granted in view of the urgent demand for dwellings, and the strong support which the Commissioners have from various quarters.

In New Offices

Hugh G. Jones, architect, 1 Belmont Street, announces the removal of his offices for general practice to Rooms 409-410 Drummond Building, corner St. Catherine and Peel Streets, Montreal. Telephone as at present, Uptown 2871. Hours for Toronto Union Station business will be 9 to 11 a.m., or by appointment, at the Toronto Terminal Architects' Office, 1 Belmont Street, as heretofore.

Resumes Professional Practice

Mr. Gordon M. West has returned from overseas and has resumed professional practice with the firm of Molesworth, West & Secord, Architects, 1405 Royal Bank Building, Toronto.

Art Developed as Needed

Cabinet making, as all arts, began with the human needs of people. War and the necessity for hastily moving from place to place during the semi-civilized periods gave place to the making of homes and the effort to furnish them comfortably—one of the strongest impulses in nature and the surest sign of civilization.

The old chests in which they kept their belongings were at last allowed to remain stationary and were used as seats. The name of these chests in England was "cabins," and the maker of them was called a "cabinet maker." As soon as might be, the cabinet maker provided the old chests with backs and they became settees, while others were raised on legs and became cabinets, or, being provided with doors and drawers, became cupboards or "chests of drawers." Tables and beds were also devised, together with wainscoting for entire walls, and people really began to live.

The workmen who made these things were capable of designing and executing an entire department with its furniture. Great skill was required, and notables and royalty prided themselves on having some artist-artisan to do their bidding. In the establishment of these men different degrees of skill were recognized, and the system of apprenticeship obtained. A youth entering one of these studio workshops, having passed all the grades, became a "master." To attain this degree was to be worthy of the respect of the world.

Saskatchewan Memorial Architects Announced

The plans for the projected war memorial which is to be constructed in the city by the Saskatchewan Government will be drawn by Nobbs and Hyde, of Montreal, who are the successful contestants in the competition. The assessors appointed to make the award were Septimus Warwick, F. R. I. B. A., Montreal, and Ramsay Traquain, F. R. I. B. A., Professor of Architecture at McGill University.

Back Issues of Construction Wanted

A subscriber is anxious to secure copies of CONSTRUCTION for February, July, August and October, 1912, to complete his files. Any party who has copies of these issues which they are willing to dispose of will kindly communicate with our Circulation Department, who will remit the subscription price.

CONTRACTORS and SUB-CONTRACTORS

As Supplied by the Architects of Buildings Featured in This Issue.

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Heating, R. F. Wolfenden.
Painting, Philip Love.
Plumbing, J. J. Neelands.
Sheet Metal Work, P. J. Moran.

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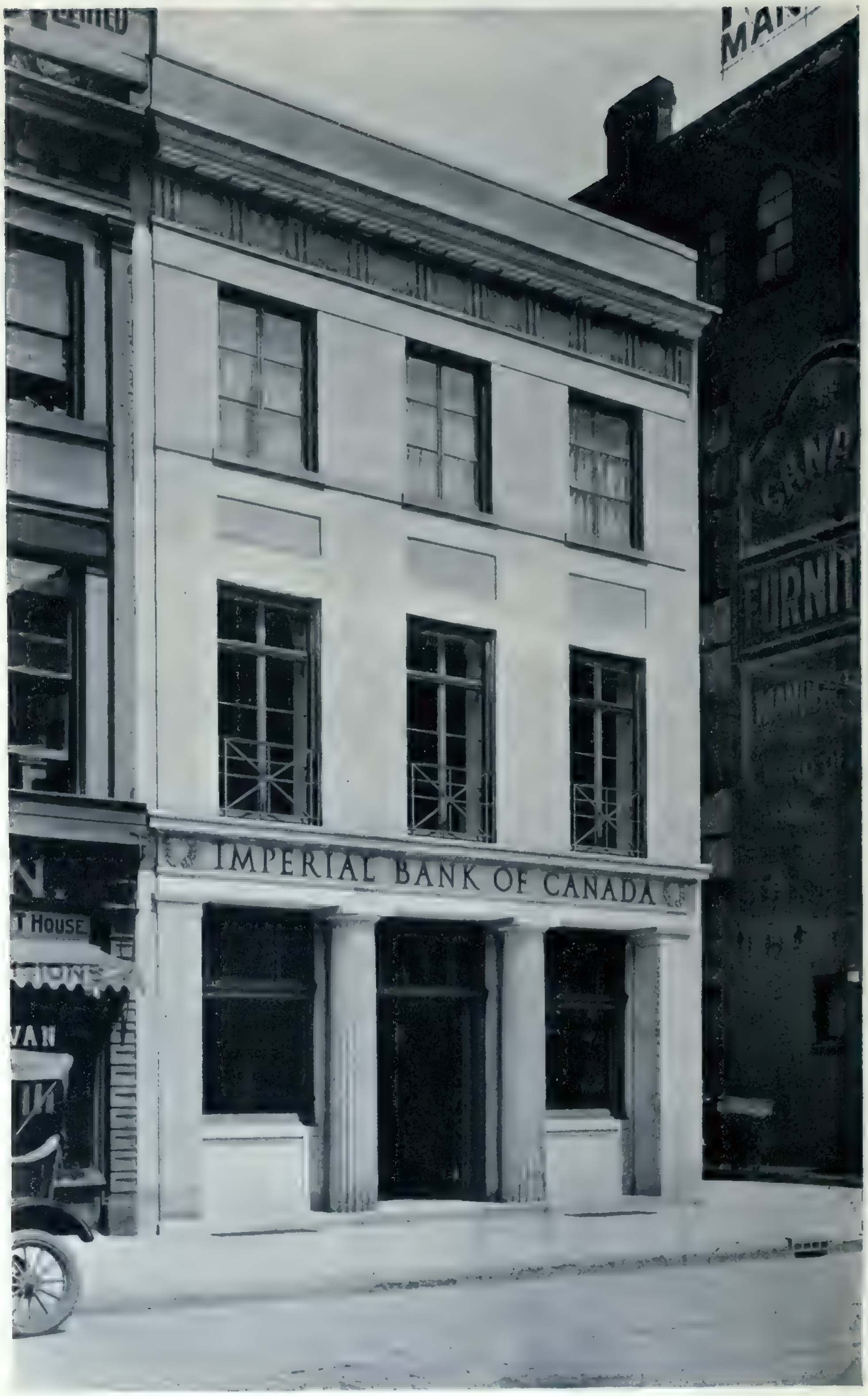
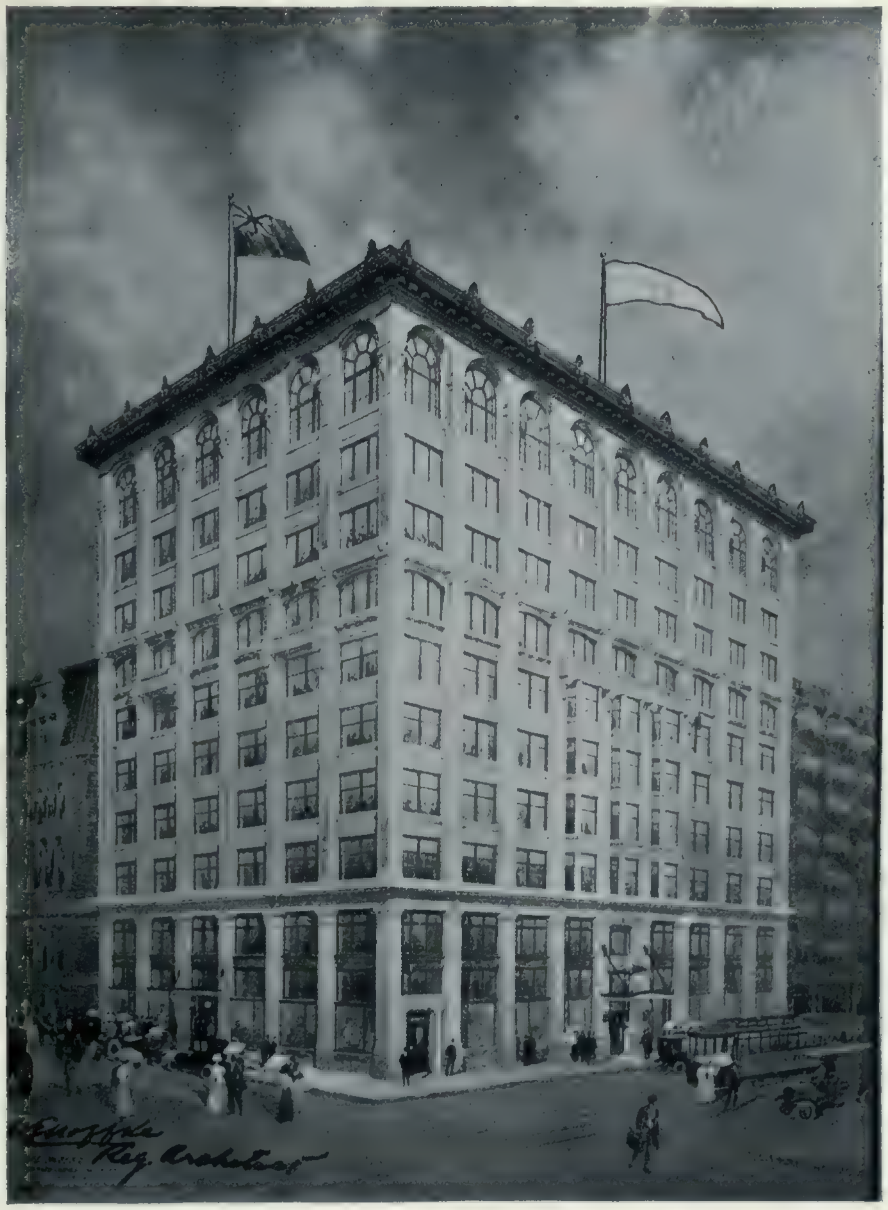


MARKET BRANCH OF IMPERIAL BANK OF CANADA, TORONTO

CHARLES S. COBB, ARCHITECT

New Union Bank Building, Ottawa

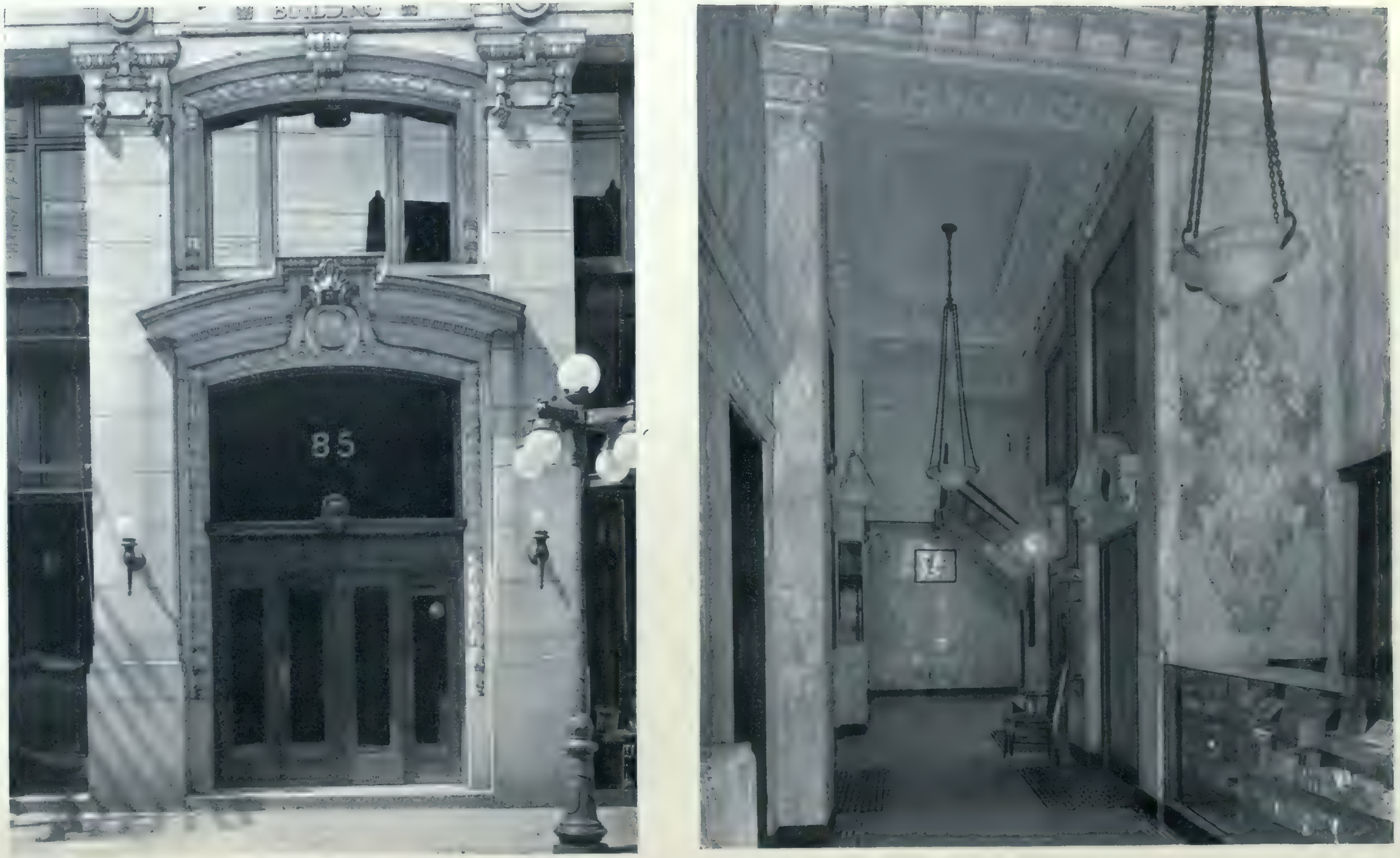
COMPARATIVELY few large commercial buildings were erected in Canada during the war. Consequently the new Union Bank Building represents an important development which denotes the growth and progress of Ottawa. The structure has a frontage of 139 feet on Sparks Street and 100 feet on Metcalfe Street, and is ten stories and basement in height. The ground floor is divided into banking quarters on the corner, six stores and a hotel. Above this are offices, averaging about thirty-six to the floor. In the basement is a grill room in connection with the hotel, a barber shop, public lavatories, large billiard room, storage, boiler room, power equipment and electric switch room.



UNION BANK BUILDING, OTTAWA, W. E. NOFFKE, ARCHITECT.

The main entrance on the ground floor opens into a large vestibule, having a staircase to the basement. The main hall from Sparks Street, which connects with the Metcalfe Street entrance, is equipped with four elevators, capable of operating at a speed of over four hundred feet per minute. A cigar, candy and newsstand appropriate to the design is provided for the convenience of the occupants. The elevators are enclosed in bronze doors, and the walls of the corridor and entrance are faced to the height of the ceiling with Paonazzo marble.

Steel covered with concrete is employed for the framework of the structure, and all floors throughout are of concrete, reinforced with expanded metal and wire cloth. The exterior walls are of grey Stanstead granite for the two lower stories, with Ohio sandstone above. A feature of the main entrance is an elaborately carved lintel in one piece, weighing about eight



DETAIL OF ENTRANCE

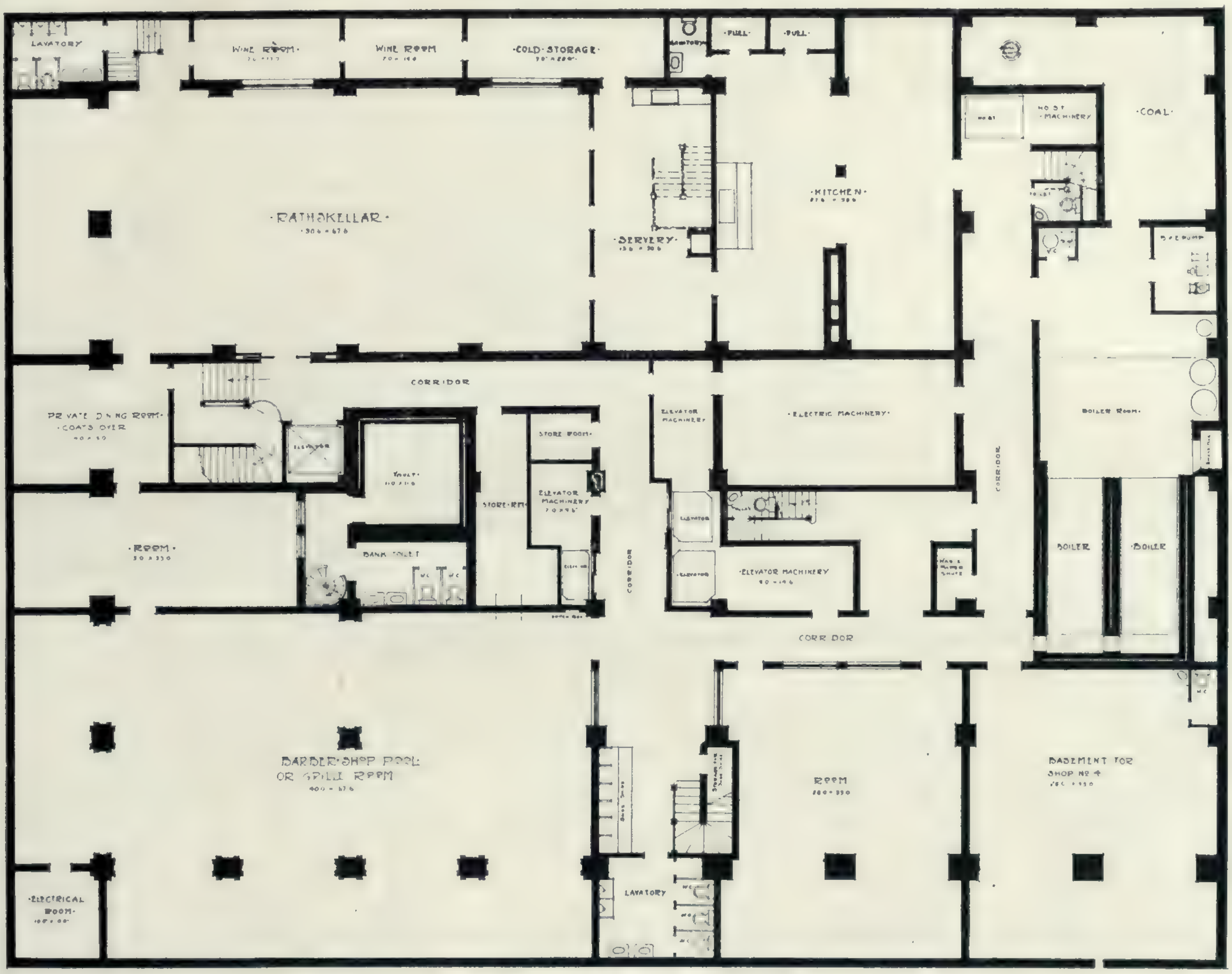
LOWER ELEVATOR HALL

NEW UNION BANK BUILDING, OTTAWA

W. E. NOFFKE, ARCHITECT

tons. The cornices are of copper, with a heavy embossed lion's head capping off each pier, and having electric lights between the panels for illumination at night. The show windows are exceptionally well fitted with curved glass and are panelled on the inside with inlaid mahogany. Each store is also provided with a gallery, which not only attractively adds to the scheme, but also increases the amount of space available for the use of the tenants.

On the upper floors every office suite is provided with a vault. Each floor has two separate lavatories for men and women, making four in all, tiled to the height of seven feet. Tiling or terrazzo is also used for the floors of the corridors and in some of the shops. The plumbing fixtures are of the most approved type. The basins are of the non-splash kind, and are equipped with automatic taps to prevent against waste of water. All plumbing is so arranged that any section can be cut off without interfering with the other portions, and it can also be closed off immediately at the tap in case of washer repairs. The water supply comes into the building through a three-inch main from the street to an automatic pump, from where it is pumped to a ten-thousand-gallon tank on the roof, and from there supplied to the various floors, an automatic water booster being employed as an auxiliary.



BASEMENT PLAN, UNION BANK BUILDING, OTTAWA. W. E. NOFFKE, ARCHITECT.

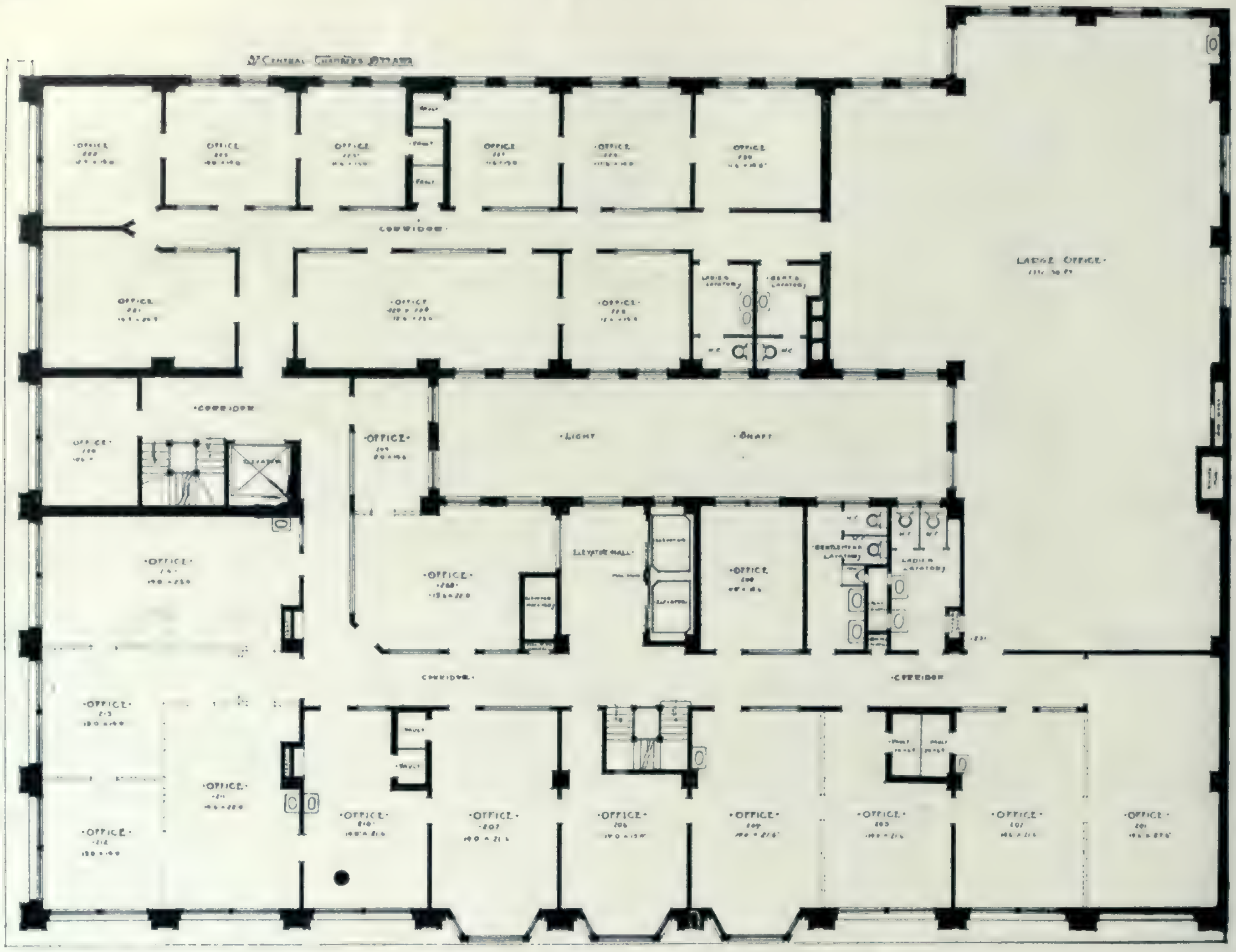
All floors are equipped with vacuum outlets, with discharge and motor for same located in the basement.

The building is ventilated by two 72-inch fans placed on the roof and electrically driven. The ducts from these are dropped down, with registers at ceiling and floor levels. In the winter time only the floor registers are used, unless the others are required. The heating is done by a vapor system, having control valves on each radiator and fed by two 18-foot tubular boilers having a diameter of 78 inches.

The cost of the structure complete was approximately $600,000.

◆

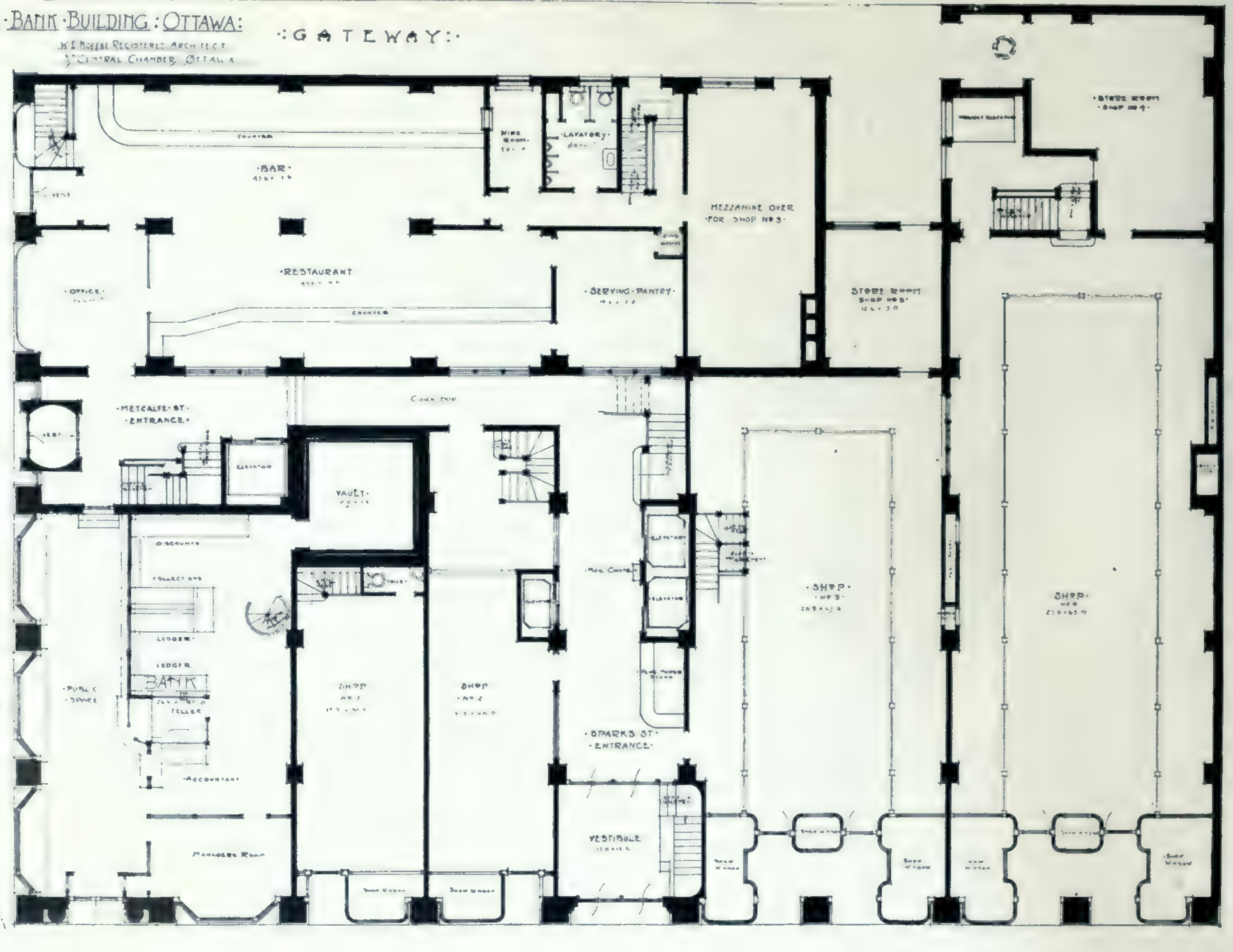
If a decoration is not practical, if it does not present a good reason for its being, then it falls far short of its mark and degenerates into something that certainly is not decoration. This is a condition of fact which many furnishing men are apt to forget—and which is made easy of forgetting by the weird, meaningless forms occasionally sponsored by various "art movements."—Exchange.



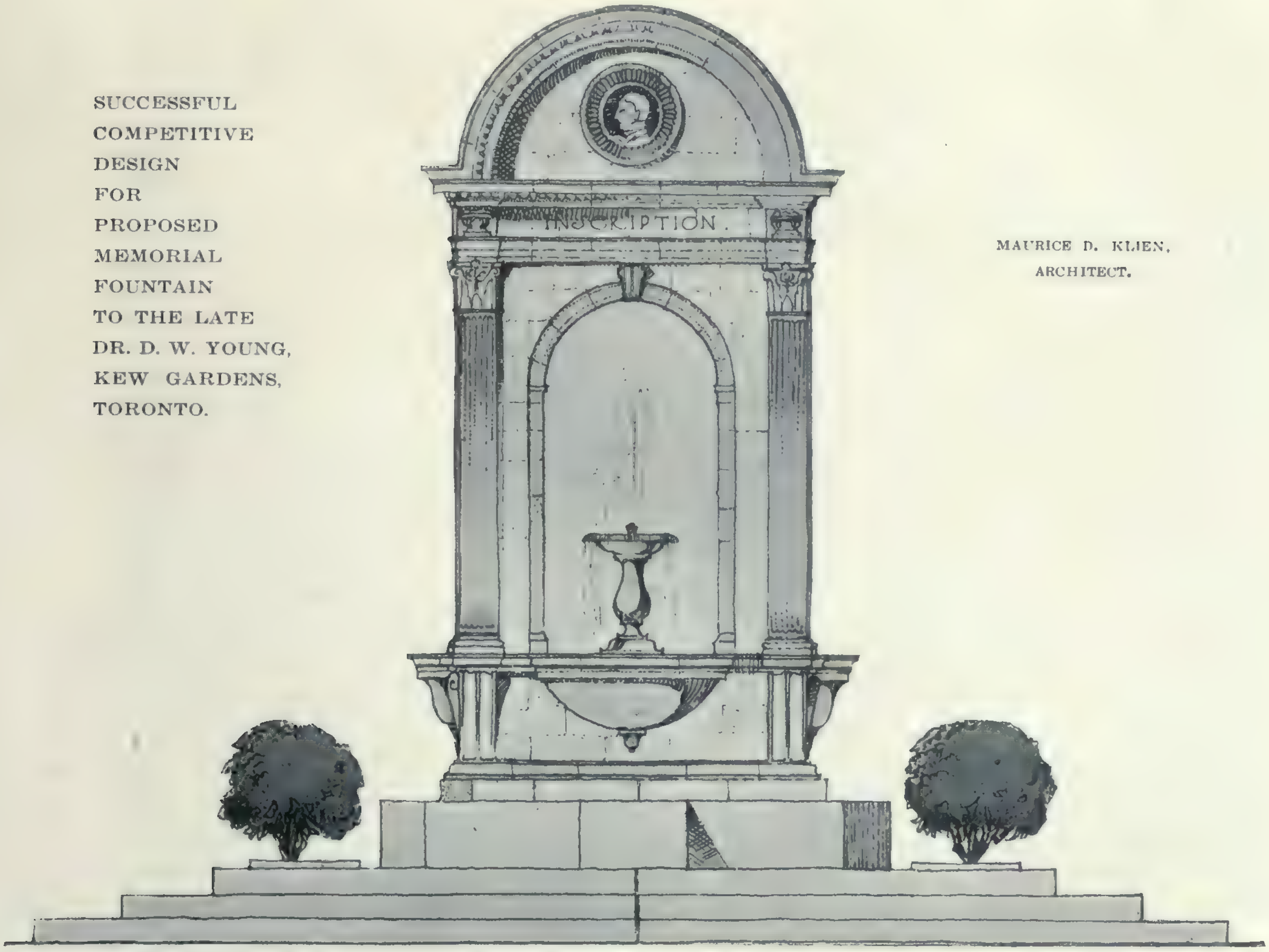
TYPICAL UPPER FLOOR PLAN.

:Union·Bank·Building:Ottawa:

W. E. Noffke Registered Architect
Central Chamber, Ottawa



GROUND FLOOR PLAN.



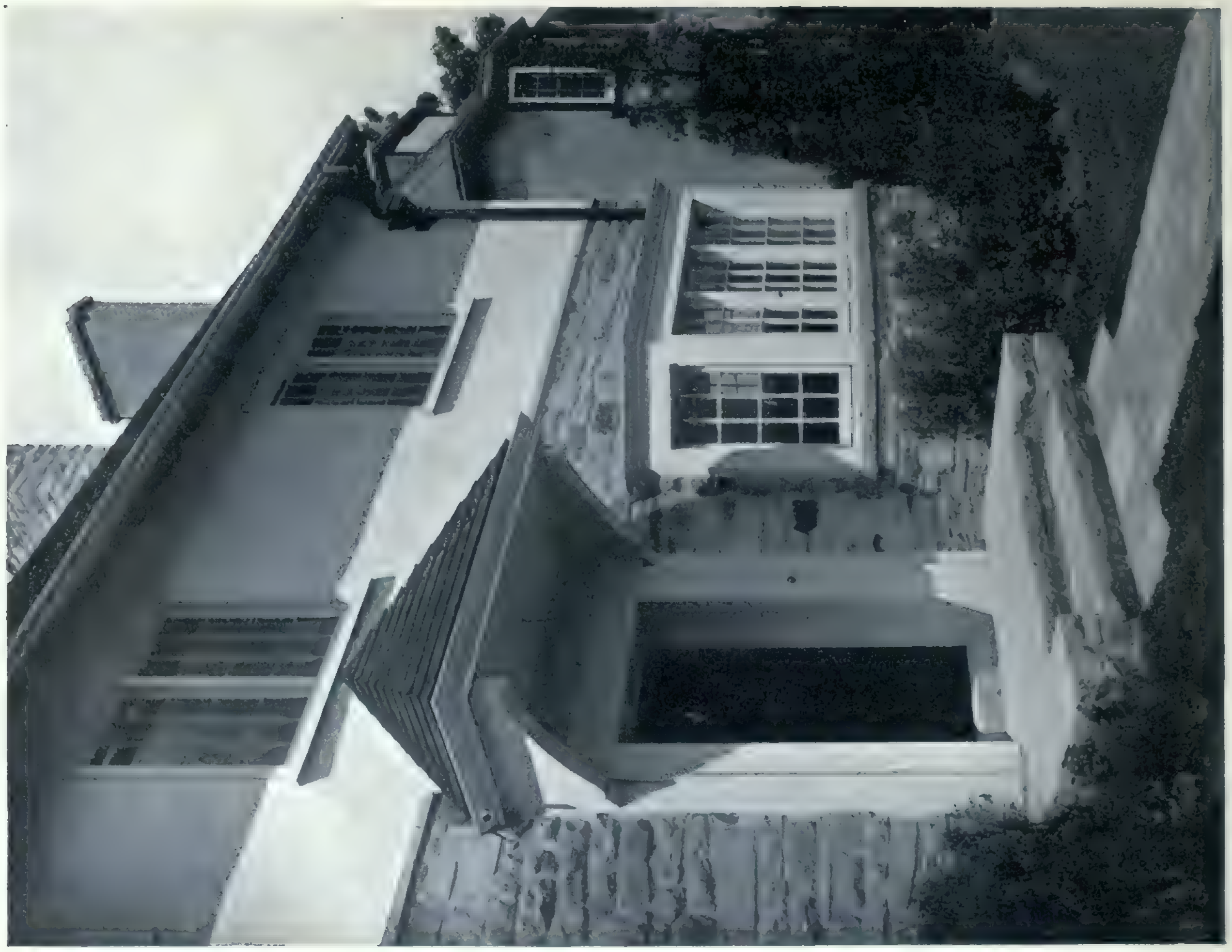
SUCCESSFUL
COMPETITIVE
DESIGN
FOR
PROPOSED
MEMORIAL
FOUNTAIN
TO THE LATE
DR. D. W. YOUNG,
KEW GARDENS,
TORONTO.

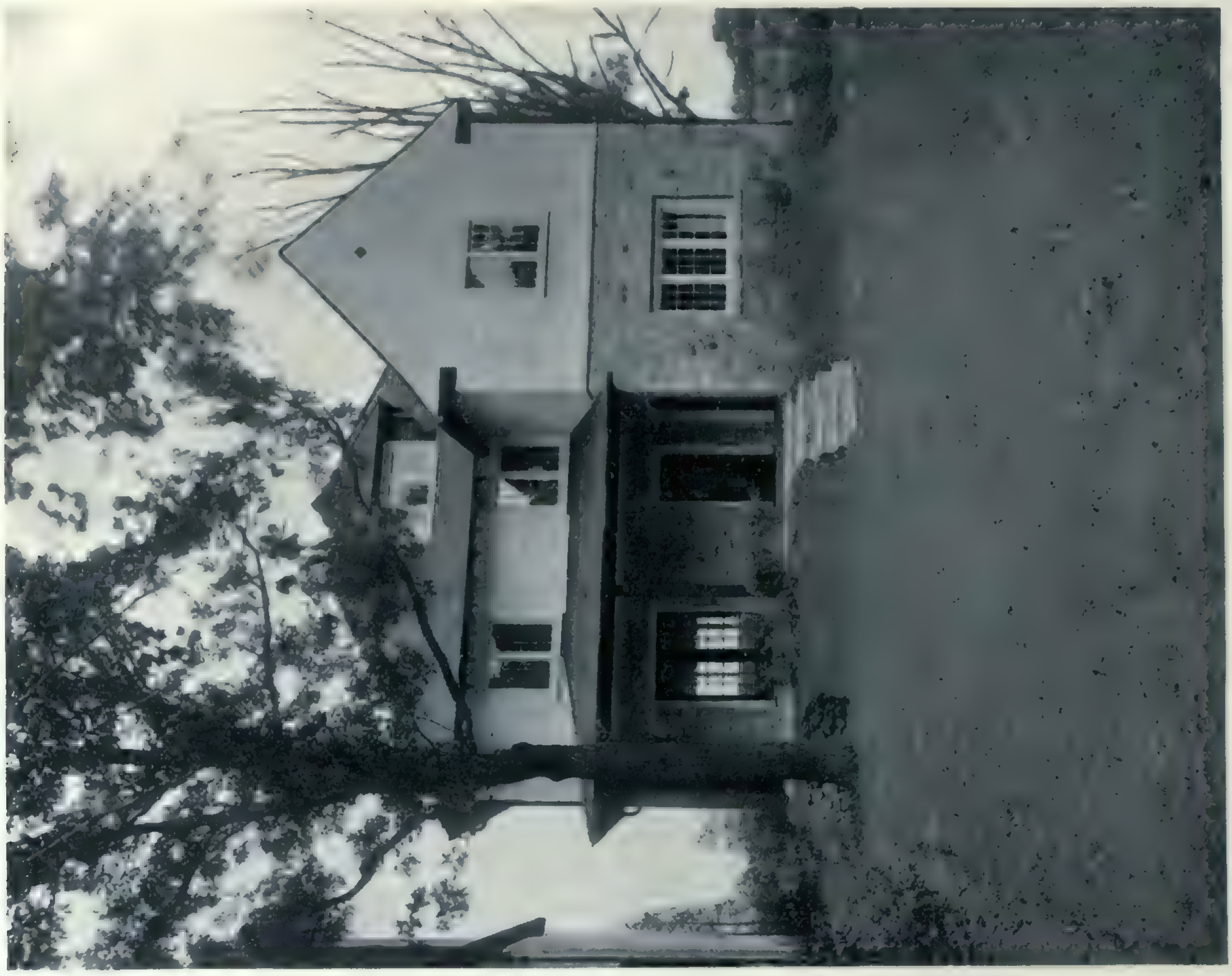
MAURICE D. KLIEN,
ARCHITECT.

Proposed Memorial, Kew Gardens, Toronto

Tribute to the memory of the late Dr. D. W. Young, whose life was characterized by many humanitarian and benevolent acts in the pursuit of his professional duties, will shortly assume the form of a memorial fountain to be erected in Kew Gardens, Toronto, from funds raised by his many admirers. The design, which was selected in a recent competition held for this purpose, represents the work of Maurice D. Klein, one of the younger members of the architectural profession, who is at present in his twenty-fourth year. Prior to taking up practice, Mr. Klein was for several years in the office of Mr. C. S. Cobb, during which time he was twice awarded first prize in the students' competition at the Canadian National Exhibition. He was also awarded the fourth-year prize of the Toronto Technical School in advanced architecture in 1917. In the Dr. Young memorial he has not only produced a design of pleasing artistic merit, but also displays ability of considerable promise.

The monument, which is in the Italian Renaissance style, will rest on a platform about 17 feet square, with the terminals accentuated by plants. The monument itself will be about 5 feet 6 inches square, rising to a height of approximately 14 feet. The drinking basins are located three feet from the edge of the platform, and above same on all sides are open arches giving a vista through the park. The soffit of these arches will be carved, five pateras to each arch, on a blue colored background, the pateras being in gold. At the centre of the monument there will be a bronze spray, whose continual play will be emblematic of the outpouring kindness of Dr. Young's life. On each side of the archways there are pilasters running to the underside of the architrave. These are of the Corinthian order and fluted, being carried by consols. Above the cornice is a semicircular roof covered with copper. The design also provides for bronze medallions of the late physician on the north and south elevations, and suitable inscriptions will be carved on all four sides of the frieze. The material to be used will be limestone.



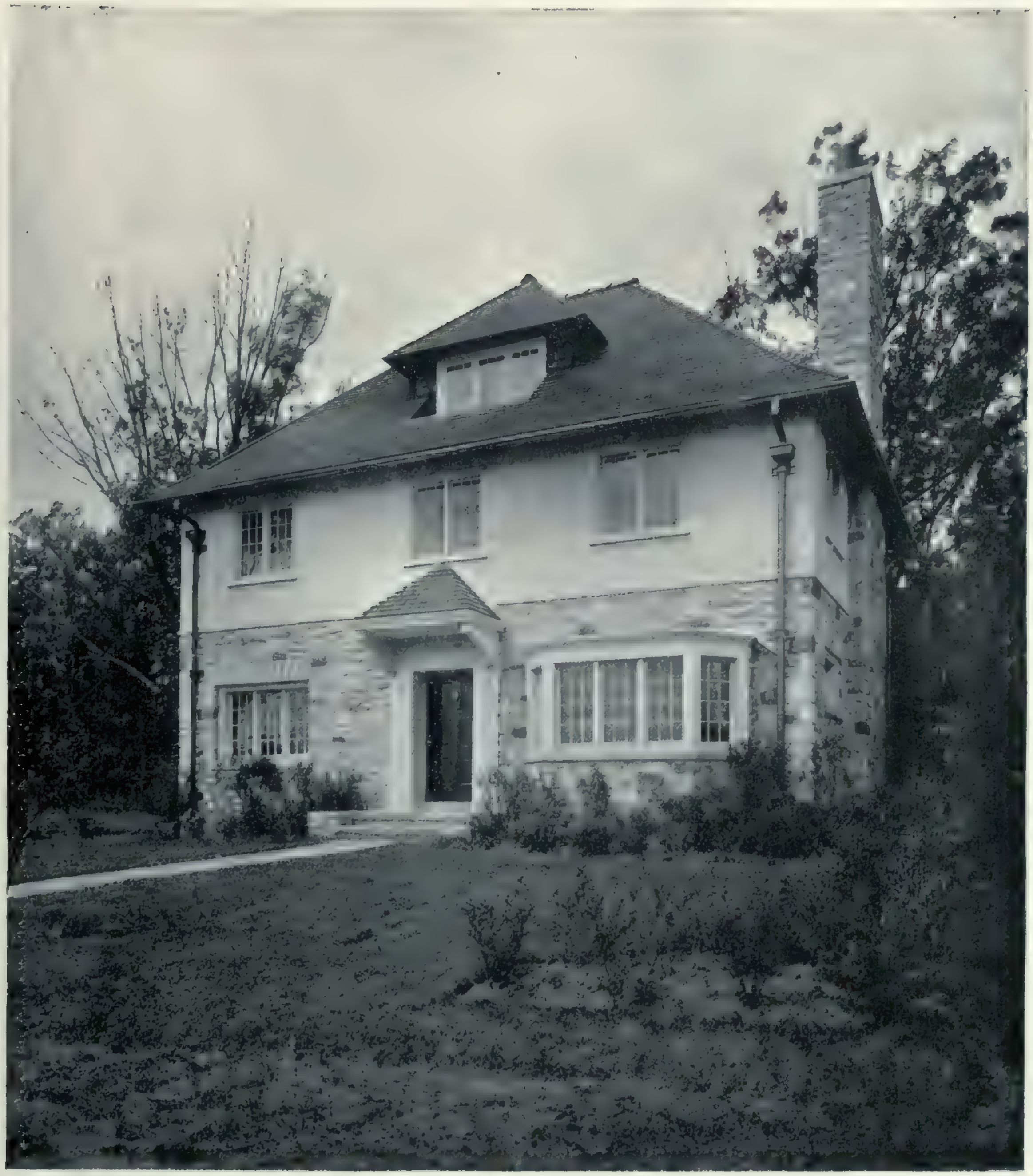


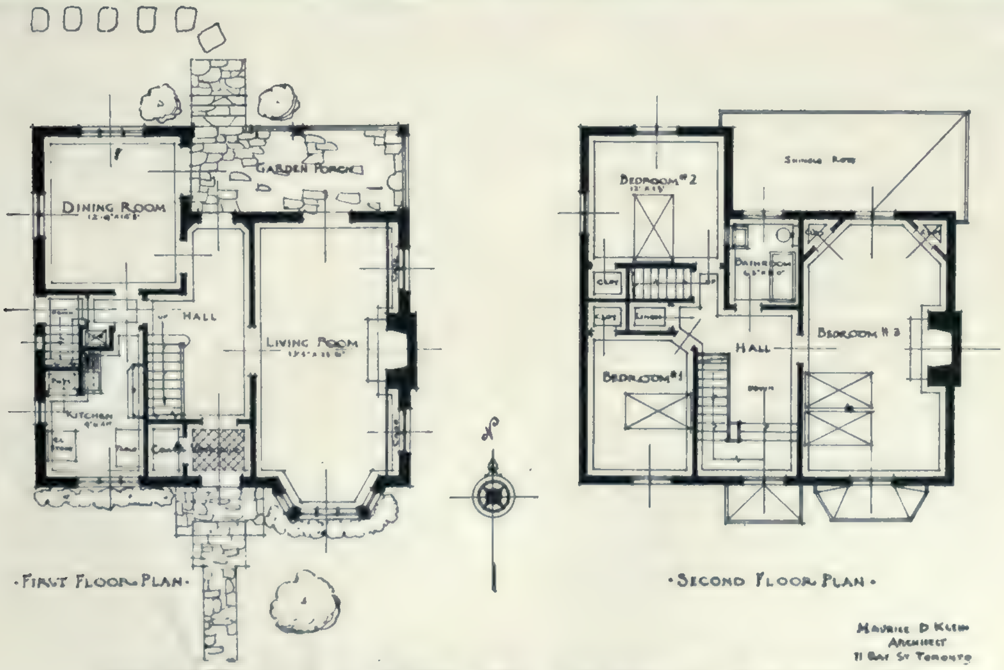
DETAIL OF ENTRANCE AND BAY.

VIEW FROM THE REAR.

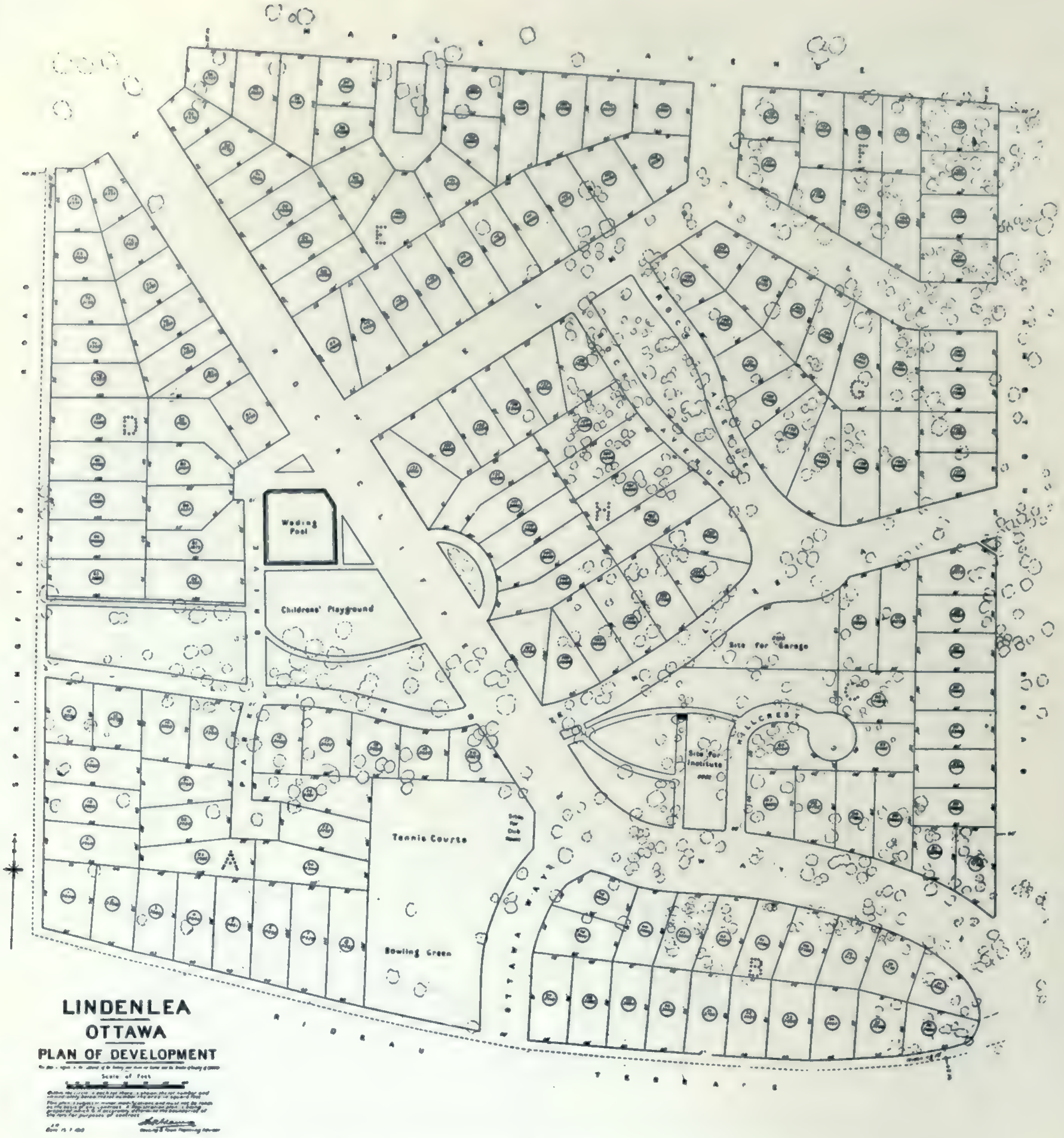
RESIDENCE OF H. B. TABER, ESQ., "CEDERVALE," TORONTO, ONT.

MAURICE D. KLEIN, ARCHITECT.





RESIDENCE OF H. B. TABER, ESQ., "CEDERVALE," TORONTO, ONT.
MAURICE D. KLEIN, ARCHITECT.



OTTAWA HOUSING COMMISSION'S PROPOSED DEVELOPMENT SCHEME.

The above development to be known as "Lindenlea" which the Ottawa Housing Commission proposes to carry out, comprises an estate of about 22½ acres and provides for the erection of 168 houses. The ground plot which was prepared by Mr. Thomas Adams, Town Planning Adviser to the Commission of Conservation, departs from the usual rectangular method, being planned to follow the contour of the land so as to obtain the best economic and aesthetic results. The main thoroughfare will be a 66 foot roadway called Rockcliffe Way, which will extend diagonally through the property. This road will form a juncture with a small connecting road to Rideau Terrace, called Ottawa Way, from which point a splendid view of the Parliament Buildings can be obtained. Provision is made in the plan for tennis and bowling greens, a children's playground and wading pool, an institute or public library and a comunity garage. All open spaces are intersected by Rockcliffe Way and will be connected to form a small park system, so that the main artery will be an attractive driveway, fringed with trees and open spaces. The open spaces in the plan also include an "Island" in the centre of Rock Ave. This consists of an out cropping of rock which will be preserved in order to avoid the cost of excavation and converted into a rock garden with the road running on each side. The scheme is more fully described in the accompanying article, and it shows the practical solution of a problem which might offer valuable suggestion to other municipalities engaged in providing housing facilities or contemplating a similar undertaking.

Ottawa Housing Development

THE proposed "Lindenlea" garden suburb to be developed by the Ottawa Housing Commission should serve as a worthy object lesson to other municipalities which are engaged in solving the housing problem. It will not only provide an ideal residential district, but one which will offer special community advantages. The plan of development, which has been prepared by Mr. Thomas Adams, Town Planning Adviser to the Commission of Conservation, involves a group scheme of 168 houses, with a main thoroughfare 66 feet wide and secondary streets running through the property and connecting a small park system. The property itself, which comprises a very picturesque site near Rockland, has the following approximate dimensions on its four sides:—N., 980 ft.; S., 990 ft.; E., 975 ft.; W., 928 ft.

The reputed area is 22.235 acres, of which one-eighth of the total is to be reserved for open spaces. The subsoil comprises clay and gravel, but shallow rock underlies a considerable portion of the area. The site is one which can be easily drained, and is exceptionally healthy in character and situation. There is much fine timber, suitably located to enable it to be preserved for shade and beauty. The prospects of the surrounding country are especially fine. The undulation of the land affords scope for interesting and varied treatment of the lots as sites for buildings.

In preparing the ground plan, an endeavor has been made to avoid putting the Commission to any unnecessary expense for grading streets and cutting into rock, and to utilize the land which is unsuitable for building on as part of the street or park area of the scheme. By doing this the maximum of good land will be included in the lots and there will be no expensive lots to develop. Mr. Adams, in submitting his report on the scheme, points to the fact that while the lots are fairly small in size, regard should be given to the area which is reserved for open spaces; also that it would not have been possible to have reserved land to this extent for recreation purposes had the streets been made of rectangular form and of the regular width of 66 feet. The design, according to the report, has been prepared in such a way as to comply with the provincial by-laws, but it is so arranged that a good part of the width in the secondary or least important roads will really form parts of the open spaces and not be wasted in unnecessary street areas. A street called Lindenlea runs off from the east to west along the foot of the ridge which traverses the estate. A diagonal street from the north-east to the south-west might have been of some advantage, but it was deemed undesirable to create two main traffic routes across the estate, introducing cross-traffic which might become a danger to the residents.

Open Spaces.

The scheme is to be carried out within a limited expenditure necessary to give consideration to the question of financing and administration of the sites reserved for open spaces. In this connection it has been decided to merge the cost of these spaces in the price of the lots, which will entitle the residents on the estate to their full use. The spaces to be utilized for this purpose comprise the following areas:—

(1) Tennis courts and bowling greens, 34,580 square feet.

(2) Park adjacent to proposed library and institute, 19,400 square feet.

(3) Children's playgrounds, including boulevard area between Springfield Road and Rockcliffe Way (and wading pool), 43,700 square feet.

(4) Small crescent area off Maple Lane, 3,260 square feet.

(5) Triangular area on Rock Avenue, 9,880 square feet.

(6) Small crescent off Rockcliffe Way, 2,994 square feet.

(7) Open space at entrance to estate, 4,920 square feet.

Total, 118,734 square feet.

These open spaces have largely been arranged on the principle of using up land that is least suitable for building, some of which it would have cost as much to convert into building land as the land would be worth when converted. The sites of the tennis courts and bowling greens are good building land, but obviously a good level site is needed for recreation purposes.

In reference to the question of responsibility as to the maintenance of these public spaces, the report makes the suggestion that the ownership of the sites on all open spaces might be vested in the city and dedicated to the use of the residents; or that the Housing Commission might continue to act as trustees for the residents pending the creation of a permanent trust or the transference of the open spaces to the city. It is therefore recommended that the Mayor and Controllers be approached to find out what would be the best arrangement to make in the interests of the city, having due regard to the rights of the owners and the desirability of exemption from taxes of the spaces in question.

As regards the tennis courts and bowling green, it is suggested that the money required to be invested in levelling and planting the courts and green should be spent by the Housing Commission as part of the cost of developing the estate, and also that a small clubhouse should be erected.

In reference to the public park space, it is proposed that this should be laid out with shrubs and walks and maintained as a small park area by the city or Improvement Commission, and for that purpose should be handed over to one of these bodies on the condition that they will maintain it.

As to the children's playground, it is proposed to either form a special association of the residents to control same or else to invite the Ottawa Playground Association to take over its management under some special arrangement.

Sites for Public Buildings.

Two sites are suggested for public buildings, one for an institute or library, or a combination of both, on what is the highest elevation on the property. It is suggested that when the whole area is built upon, the residents will desire to have a place of meeting for social and educational purposes. While this building might not be erected for some time, it is undoubtedly something which will eventually be deemed of advantage, and hence a site for same has been provided in laying out the grounds.

Near the site of the institute provision is also made for a special site in a low position screened by trees for a public garage. This public garage will fulfill a similar function to that of the tennis greens in that it will help to make up for the comparatively small size of the lots. The report points out that while a tennis court or a garage are costly things to provide for each separate home, they may be comparatively cheap things if provided for a number of families in common. If properly situated, they will be found as convenient and useful as if privately owned, and if properly laid out and designed, can be made ornamental instead of destructive of amenity. In case any owner wishes to erect his own garage, he will be permitted to do so, subject to the submission of his plans to the Commission and the suitability of his lot for that purpose. It will be noted in reference to the public garage that roads radiate in every direction from the proposed site and that a court is left open in front of the proposed building. No site is reserved for a school.

Surroundings of Houses.

In considering the layout of the ground for housing, due consideration has been given to the matter of surroundings, not merely in the immediate locality of the site of any dwelling, but for some distance on all sides of it. The orientation, opportunities for obtaining light, air, privacy, shade and garden spaces, with public open spaces reasonably accessible, have all been taken into account. By paying proper regard to health and convenience in the layout of the area, and with the attention it is proposed to give as to simplicity and economy in the design of the buildings and the preservation of light and shade, an ideal district will result, without the need of any artificial methods to give it variety, interest or attractiveness.

Mr. Adams' report also deals exhaustively with the question of transportation, roadways and local improvements, and incorporates many suggestions of value to other municipalities engaged in or contemplating similar undertakings.

The estimated cost of the property on which "Lindenlea" will be situated is estimated at $66,000, and to this it is suggested that $15,000 be allowed the Commission for expenses covering development, bringing the total sum to about $81,000.

The lowest-priced lot is $340 and the highest (exclusive of local improvements) is $595, the average price over the whole property being figured at 12.8 cents per square foot.

Conducting Aluminum—A New Invention

According to a report of the United States Consul at Basel, Switzerland, a new invention called conducting aluminum, which is said to be creating a profound impression, has been made by Dr. Georges Giulini, the most famous expert in the aluminum trade. This new metal is produced by putting the ordinary aluminum through a special patented process by which it acquires the same mechanical qualities and capacities as bronze, copper and brass without changing its specific weight.

It is said that the price of the new metal can be kept within very low limits, so that, even at the prewar prices of other metals, it will be able, by reason of its smaller specific weight, to compete with copper and brass very favorably. The fact that the new metal is a conductor will make it especially in demand in the electrical trade.

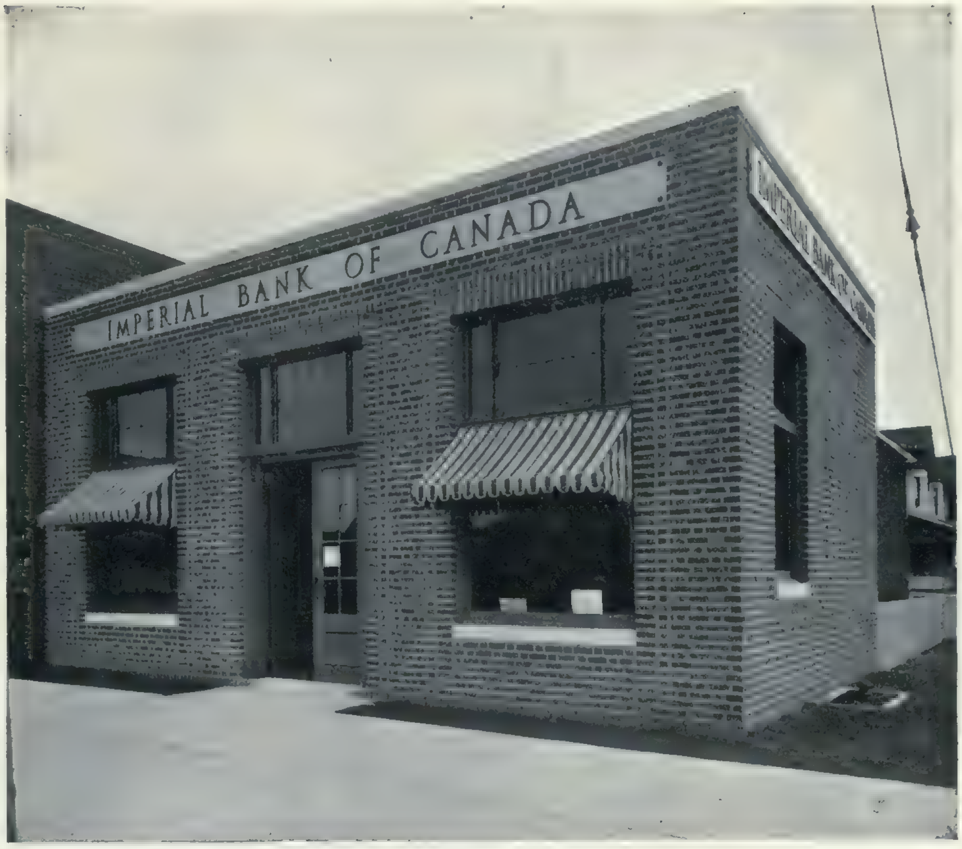
To Build Memorial Hall

A proposal to erect a large memorial hall at London, Ont., in honor of the soldiers who fell on active service during the war will be sent to the people for their endorsation in January next. The scheme, which is said to have the approval of Mayor Somerville, is to provide quarters for military organizations and, in addition, a large convention hall.

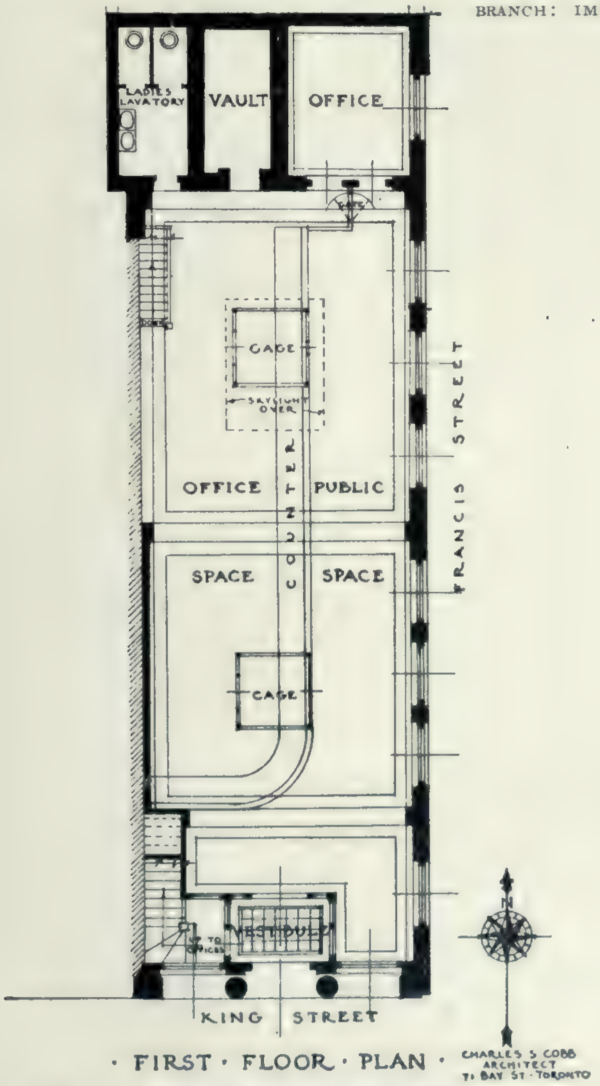
New Branches, Imperial Bank, Toronto

The branch of the Imperial Bank of Canada used as a frontispiece in this issue is an old building opposite the St. Lawrence Market which has been remodelled and brought thoroughly up to date. A dignified stone front in Doric character replaces the time-worn brickwork, and the interior has been extensively altered and modernized for the transacting of banking business. The arrangement of the place is shown in accompanying plan.

Another branch of the same institution, at the corner of Danforth and Bathgate Avenue, is illustrated above. The exterior character of the building is only temporary. Eventually two additional bays are to be built along Bathgate Avenue and a second storey added to the entire structure. While the design in its present form does not fully express the purpose of the building, it nevertheless affords a study of simple proportions. The brickwork itself is quite noteworthy. In view of the future extensions to be carried out, the building is set back from the lot line so as to allow for a stone exterior with which the completed structure will be enclosed. Mr. Charles S. Cobb was the architect for both buildings.



BRANCH: IMPERIAL BANK OF CANADA, DANFORTH AND BATHGATE AVE., TORONTO.
CHARLES S. COBB, ARCHITECT.



PLAN OF MARKET BRANCH: IMPERIAL BANK, TORONTO.
(SEE FRONTISPIECE PAGE 228.)

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Art of Coloring Glass

It is probable that the coloring of glass, and particularly the garnet tint and not the ruby hue, as some authorities would have us believe, originated in Bohemia, says the New York "World." This color—garnet—is obtained by alloying or fusing an extremely minute quantity of gold with the other ingredients—silica, soda, lime, iron oxide and alumina. On its first heating the glass is colorless, but on reheating it develops its soft, rich appearance.

◆

It is announced that a $1,500,000 addition is to be built to the King Edward Hotel, Toronto. The new part will be ten stories, and on the property which extends on King Street to Leader Lane, just east of the present building.

A Reconstruction Programme for the Building Industry

By Sullivan W. Jones.

In view of certain evils which have crept into the building industry, together with the amount of recent discussion in reference to lump sum and cost-plus-fee contracts, the following address, read a short time back before the Institute of Electrical Contractors of New York, is timely and of interest. It discusses the fallacy of certain practices and defines the relationship which should exist between an architect, contractor and owner, contending that the salvation of the architect, contractor and building industry lies in a partnership of talents. Unless this can be brought about, the prediction is made that still more unfortunate results will follow with corresponding loss to both the public and the prestige of the industry. The subject is in every way comprehensively treated and is altogether worthy of the attention of the reader.—Editor.

WHILE we may chafe under the present temporary inactivity, I cannot help feeling that it is altogether fortunate we are obliged to pause and take stock of the future. As we look forward our minds go back over the road we have traveled. We are seeking the causes of our past difficulties, that a cure may be found. It is in thus taking the past—to use the words of President Lincoln—"as philosophy to learn wisdom from," that we shall effect real reconstruction. As the electrical contractor, in common with all others in the so-called sub-contractor class, plans the future on a philosophic appraisal of the past, it is quite natural that he should see the general contractor as the root of all evil in the building industry. Now I have no inclination to defend the general contractor and his usual attitude toward his work, and toward those upon whom he has had to depend for help, for, broadly speaking, he has more than earned all the abuse that has been heaped upon him. Yet I am convinced that his elimination would be merely the adoption of another expedient, an attempt to alleviate a single symptom by superficial treatment, when the nature and malignance of the malady demands a major operation.

The assertion that the architect was the source of the trouble would be more nearly correct, for he, perhaps, largely through default, has been responsible more than anyone else for the development of the general contractor into what he is to-day. But the architect is blameworthy to no greater degree than any other group in the industry. None of us have understood the direction of the stream of tendencies, or whither it was carrying us. I think we are beginning to understand now, and that is why I say it is fortunate we have been forced for the moment to take our minds off problems of production and give sober thought to the position of the industry which furnishes us a living, and to what is going to happen if changes are not made.

The Problem of Price Competition.

The whole building industry was on a false basis before the war. The competitive stipulated sum contract system had a corrupting influence on every one who became involved in it. The architect, with few exceptions, had failed to develop the professional service part of his function. He has stood still, while changes took place with kaleidoscopic rapidity. There were many indications that he was on the high road to enslavement by the contractor. The general contractor and sub-contractor found it well-nigh impossible to secure a reasonable profit honestly. The manufacturers of materials for construction had been forced by price competition, resulting from the inability of the architect, the engineer and the owner to recognize or measure quality and fitness of such materials, to make exaggerated and often wholly false claims for the merits of their products; and this condition had been stimulated by the cupidity of the contractor. Demand for worthless by-products and cheap substitutes had been created at tremendous and constantly increasing cost to the consumer through the employment and prostitution of the power of advertising and salesmanship by manufacturers with an insatiate appetite for profit. Competition by unscrupulous rivals, who, in sacrificing quality to cheapness, have under-cut prices, had forced the conscientious manufacturer to devote his entire energy to defending his product, and robbed him of all incentive to prove it. The same kind of competition among contractors had driven the standards of work steadily downward. This condition had its effect even on work that was not competitive, for here, too, the general contractor resorted to the same shameful tactics in selecting his sub-contractors that he was obliged to employ when he himself was selected competitively on price. Indeed, the most casual inquiry discloses that every phase of the industry displayed symptoms of the destructive influence of price competition. Utter moral, if not financial bankruptcy was the goal toward which the industry was working. This is not a cheering picture, but it is a true one. It gives us the dimensions of the problem to be solved.

The Two Fundamental Questions.

Now the correction of all these conditions is not as difficult as it may seem. There are in reality only two fundamental questions involved; and even these two are closely related. The others are the natural developments of them. One is the contract system; the system of selecting contractors, either general contractors or sub-contractors, through competitive bidding on the price for a complete piece of work, under which the owner buys his building from the contractor or a group of contractors for a sum stipulated in advance of construction. The other question relates to the architect and his function. Both of these questions are under consideration by the American Institute of Architects. The one on contract system is before the Committee on Contracts and Specifications, and the one of the architect and his function is being studied by the Post-War Committee on Architectural Practice. But before I speak of the work of these committees, it will be well to show why these two questions are fundamental in character.

The Fallacy of the Lump-Sum Contract System.

The contract system which was in almost universal use before the war had evolved from two wholly false assumptions: one, that a modern building can be described by drawings and specifications with sufficient completeness to provide for an accurate computation of costs, and, hence for bids on its construction that are fairly competitive; and the other, that the contractors' business is that of selling finished work, and that he is essentially a merchant, who should, but by no means always does, possess a specialized knowledge of the suitable and economical use of the things he buys and sells.

The first of these false assumptions leads us directly to a consideration of the sufficiency of the architect's service; while the latter involves a study of the contractor's status under this form of contract. We have thus established at least one direct relationship between the two fundamental questions. While they have been stated separately, so interwoven are they that discussion of them singly is impossible.

Origin of the Lump-Sum Contract.

The stipulated sum construction contract is a product of the mercenary spirit of modern industrialism. Until the early part of the nineteenth century, the beginning of the industrial era, the lump-sum contract for construction was unknown. The great buildings of the Middle Ages and of the Renaissance period were not designed by architects, as we know them, or built under contracts. They were constructed by societies or guilds on what we would now call the cost basis, and were paid for as the work proceeded out of the public funds or voluntary contributions. The designers were master builders, members of the guild which had trained them, but with unusual ability in design. The earliest construction contracts were signed with a master builder, who, like his illustrious predecessors, was both architect and constructor. He submitted his design and the price for which he would execute it. If there was competition, it was between designs with their corresponding prices. The builder had complete control of the work, and the manner of its execution. The procedure was a perfectly safe one for the owner, because buildings were structurally simple, of few types, and the choice of materials was extremely limited. There was no question of standards of work; they were established by the pride which the artisans and the builder, took in their skill; for neither pride nor skill had yet been destroyed by the feudalism of money.

Difficulties Develop.

But with industrialism came accumulations of wealth by many who had not previously possessed it, and this change had an almost immediate effect upon practice in construction. In response to the demand for distinctive architectural effect in the homes of the newly rich, the builder with special aptitude in design became an architect. These owners applied to the purchase of their homes the same methods that had made profits for them in business. They strove to drive shrewd bargains with the contractor, and the architect was shortly called upon not only to design the building, but to exact the utmost possible of the contractor for his client. The demand for distinctiveness in design and for luxuries leads to complexities in construction, the employment of new devices and methods, all of which increased the architects' difficulties both in preparing adequate drawings and specifications and in securing from the contractor what he considered the contract called for. In England, this condition produced the surveyor and the quantity system; while in France, the unit price contract became the rule for better class work, the unit prices being established by the national architectural society, and recognized in law as standard, with the architect as "verificateur," a function closely corresponding to that of the English surveyor. The French system would seem to us most complicated, and I mention it only as being the result of an effort at correction. But in this country (United States) we had done practically nothing, until the Government was obliged to adopt a different system on its war contracts. Moreover, our problem is vastly more complicated than it ever was in either England or France, because we have led the world in the application of science and invention to the engineering of construction, and because American ingenuity has been freely utilized in meeting the demand for luxuries which have become successively conveniences and then necessities. Our buildings are now complex machines, the design of which requires the services of many engineering specialists, but we are still clinging to the contract practice of a century ago.

Competition in the Assumption of Risk.

Let us assume for the moment that we wish to hold to the lump-sum form of contract and competitive bidding. Obviously, then, we must find some way of giving to the contractor in advance the information essential as a basis for fair competition or price? Can it be done? Drawings and specifications may be improved through further standardization; questions of quantities may be largely removed by the adoption of the quantity system, and the costing of work may be placed upon a more accurate basis by the "open-price," which will also raise the price standard and assure a better margin of profit to the contractor. But are these partial remedies all that is necessary? There are always several ways of doing a thing, one less costly than another, and there will always be differences of opinion between the contractor and architect as to which is the best or whether the substitute proposed is permissible under the contract. There will always be disputes over questions of quality, because quality, both in workmanship and materials, is well nigh impossible to describe. There is another important speculative element in every lump-sum contract, and it will exist even if drawings and specifications could be perfected. When a contractor signs such a contract, he sells short for delivery over a stipulated period of time, the quantities of labor and material required. It is this element of risk which has now acquired such proportions that no sensible man is willing to assume it. In some localities, in times more normal than these, or than those to which we look forward, the risk of loss to the contractor from a rising labor market has been minimized by wage agreements with organized labor. In other places that stability has not been secured. And the material market never has been and never can be brought under control. Estimating, even under the most favorable conditions will always involve risk to the contractor, and as long as there are risks, competition will be based on risks instead of work to be done. The low bid, whether it be too low or not, will always be the product of the greatest error or the assumption of the greatest risk.

Competition Should Be Preserved.

We are forced to the conclusion, it seems to me, that competition on price is economically unsound; which conclusion leads us to ask the question: Which is wrong; competition or the stipulated price? Competition is the foundation of healthy life. It is the necessary stimulant to development, to sustained human effort and efficiency. We should strive by every possible means to preserve competition in the building industry; competition between architects, between contractors, and between manufacturers. But let us also strive to make that competition of the invigorating and not the destructive kind.

Let us, therefore, examine the case for the lump-sum contract. I have said it had a corrupting influence on every one involved in it. Almost every ill and every evil in the building industry, I am satisfied, may be traced to the lump-sum contract. Under it the interests of the owner and contractor are diametrically opposed. The contractor's profit lies between the actual cost of the work and the amount of the contract. The greater the cost, the less the profit: and *vice versa.* The contractor's aim is, therefore, to deliver as little as possible, while the interest of the owner is in exacting the utmost of the contractor. The contract stands between them setting up antagonisms where there should be co-operation, creating conflict of purpose where unity of interest is essential to success. Under the lump-sum contract the contractor has been a merchant, buying and selling finished buildings. All of us have been misled by thinking of the product rather than the method of production, by fighting over the division of profit rather than considering means of assuring reasonable profits to all who participate in the enterprise, including the owners. That is why the contractor has become a broker trading in contracts which represent finished buildings and their component parts, instead of a constructor or engineer.

Contractors Cannot Be Merchants.

The arguments against the general contractor being a merchant are possibly more conclusive than any that can be directed against the merchandising function for the sub-contractor, especially the sub-contractor who manufactures and installs a product; but they apply, nevertheless, with the force of conviction to both. The general contractor manufactures none of the materials which he handles. He has no plant or factory, and has no legitimate use for either. He has no capital invested in anything of permanent value to him. The money which he uses in conducting his business is a temporary substitute for the owner's capital ultimately represented by the finished building. What is it the contractor has to sell? Service, his expert knowledge of the fabrication of buildings. In the last analysis service is the thing he has always sold, but instead of selling it to his employer, he has sold it to himself. The system has placed a premium on disloyalty and astuteness in the contractor, rather than engineering skill and efficiency.

The same contradictions have confused and misled the sub-contractor. He has wasted his best energy fighting for trade discounts on the materials he purchases in order to resell them competitively at a possible profit. He, too, has struggled to make a livelihood through the purchase and sale of labor and materials when he should have centered his effort on perfecting his service, and finding a market for it. If service is the commodity in which the contractor deals, and we wish to preserve competition, obviously, then, competition must be in service and not in the price for finished work. The value of service is measured in terms of results. If economy is one of the results looked for, and secured, let it be an asset to the contractor, instead of stolen fruit to be concealed.

THE ARCHITECT AND THE LUMP-SUM CONTRACT.

But we have not yet put in all the evidence against the lump-sum contract. The architect has not escaped its insidiously evil influence. The average owner, the owner who is inexperienced in matters of construction, undertakes his venture on the assumption that the architect is omniscient, and that when a bid is received on the drawings and specifications, it is all inclusive. This is the fallacy of the complete and sufficient drawings and specifications. A mistake is made when an architect accepts employment without disclosing to his client the unavoidable limitations which are placed upon his service. As the work proceeds, omissions are discovered, differences arise as to what is meant by vague expressions and indications, and the architect is at once placed on the defensive with respect to the sufficiency of his drawings and specifications. He has the choice of confessing his plight to the client or covering it up by compromise with the contractor. Some pursue the former and honorable course, others, the latter. The position of the architect under such a contract is unwholesome. It is unfair to him. It is unfair to the owner who has sought the architect's advice on the basis of confidence. It is unfair to the contractor. It is a high tribute to the profession and the professional tradition, that so few architects have succumbed to the temptations which constantly urge them to abandon the difficult role of conscientious servant.

CONDITIONS AND THE AMERICAN INSTITUTE OF ARCHITECTS.

That the architect is keenly alive to his untenable position, and to the gravity of the consequences to the whole building industry, if conditions remain unchanged, is evidenced through the appointment by the American Institute of Architects of a Post-War Committee on Architectural Practice, charged with the study of the architect, his function, relation to the public and public interest, and his education; and by the principles adopted as fundamental by the Committee on Contracts and Specifications in connection with its deliberations on the cost-plus-fee form of contract. These two committees beginning work on two distinct questions have found, for reasons I have already shown, that their labors are complementary; and I venture to predict that in the end their work will be co-ordinated, at least to this extent: That the Committee on Contracts and Specifications will perfect the cost-plus-fee form of contract and the other committee will recommend its universal adoption.

THE COST-PLUS-FEE CONTRACT.

The cost-plus-fee contract, as we have known it, has been a compromise document. The status of the contractor, by reason of his contract liabilities, and by reason of the unchanged attitude of the architect and owner, was not radically different under this form of contract, from what it had been under the lump-sum contract. While his interests theoretically coincided with those of the owner, the contractor failed to realize the nature of the relationship, and consequently his attitude of mind remained unaltered. The Committee feels that the change must be complete, and to accomplish that end, it is necessary to make such changes in the document as will give the contractor a new picture of his status and responsibilities. The Committee asserts that, "in the light of recent experiences of the government in the use of the cost-plus-fee system, the following general principles are felt to be fundamental."

> (1) The contractor becomes in effect a professional adviser of the Owner, as his "Construction manager" and should be relieved of all contract liabilities inconsistent with such a relationship; (2) For this purpose the Owner should pay directly for all materials and should enter directly into contract with sub-contractors rather than having sub-contractors make their contracts with the Contractor. Payrolls must perforce be paid by the Contractor and reimbursement made by the Owner; (3) In view of this professional relationship, no "bond" guaranteeing performance is needed or proper, any more than for the architect.

It is difficult to comprehend at once the full significance of this statement. The principles enunciated find expression throughout the document. There has been a discussion on the expediency of changing the term "contractor" to "constructor," or "manager of construction," or "constructing engineer," but it was decided a wiser course to pursue, to use the old and familiar term and let the contractors' wishes gradually crystallize into the choice of some substitute term which would be more appropriate and more descriptive of the new function.

This is the wording of the clause, which, in the older form of contract, was captioned "Subcontracts." It now bears the title "Separate Contracts."

> All portions of the work that the contractors' organization has not been accustomed to perform, or that the owner may direct, shall be executed under separate contracts. In such cases, either the contractor shall ask for bids from the contractors approved by the architect and shall deliver such bids to him, or the architect shall procure such bids himself, and in either case the architect shall determine with the advice of the contractor and subject to the approval of the owner, the award and amount of the accepted bid. The owner shall contract direct with such approved bidders, etc., etc.

This clause, it will be observed, establishes the relationship between the so-called sub-contractor and the owner or architect, which the sub-contractor has sought to realize through the elimination of the general contractor.

The Architect-Contractor Relations.

The Post-War Committee on Architectural Practice has made several important announcements in connection with its study of the architect, his function and conditions of service, and it is interesting to note how the line of inquiry has led the Committee directly to considerations of contractual relationships. Under a subdivision of its work termed "Contracting," the Committee makes the following observation:

> Great changes have taken place in recent years in the status of the contractor in relation to building enterprises, that have reflected a change in the status of the architect. For a number of years there has been a gradual increase and consequent instability in prices of material. Also there has been an increasing scarcity of labor, and a consequent instability in labor cost; also a more or less general industrial unrest, and the working out of problems of labor jurisdiction, terms of employment and restriction of output, all of which have made the old method of competitive bidding and lump sum contracts, uneconomic and unfair, either to the owner or the contractor. Contractors, in order to eliminate the risk of loss to themselves or the necessity of charging the owner a large contingent fee to protect themselves against loss, have advocated the "cost plus a percentage," or "fixed fee" profit. The Government, through practically all its agencies, has let contracts amounting to more than a billion of dollars on this basis and has thus placed its stamp of approval on the method. The general uncertainty as to prices of labor and material in the readjustment period after the war will undoubtedly still further establish this procedure in awarding construction work.
>
> Under the new system the contractor sells his services on a professional basis at a certain percentage on the cost or for an agreed fixed fee, and his remuneration is understood to be for the use of his organization and its knowledge of the building business applied to the particular enterprise; in fact, the methods we employ and include in the term professional practice are being approached steadily by those we have been pleased to call contractors and who have had to do with the actual business of building only. The selection of a contractor now becomes a question of the individual's or concern's reputation for honesty, ability, and business judgment rather than a question of a competitive price at which they will undertake the work; his relation with the owner becomes a more personal one —based upon confidence rather than on an entirely impersonal contractual relation.
>
> Contractors have been quick to realize the changing conditions affecting their selection; also the modern business tendency to deal with one organization equipped to handle all phases of a building problem and have built up highly specialized organizations, impressive in their size and with such financial connections as inspire confidence in their ability to render service. Construction companies and engineering corporations are employing able designers and doing all work from the making of drawings and specifications to the financing, building, and furnishing of the structure. Under this new system, the average architectural organization dwindles in impressiveness. The service of an architect, where a contractor is selected on the basis of "Confidence" is not required in the same degree as in the older method, to which the performance of the contractor or to safeguard the expenditures of the owner. Nor is he so frequently called upon to adjudicate disputes that may arise between the owner and the contractor over interpretations of the contract obligations. The architect, the contractor, and the owner are collaborators to secure the maximum of building at the minimum of cost.
>
> More and more frequently the owner, through his closer association of contractors with actual building, selects a contractor who has a so-called architect appended to his organization or leaves the selection of the architects to the judgment of the contractor.

Under another sub-division referred to as "The Architects Personal Association with Actual Construction," the Committee presents for consideration the following thought:

> "Architects are inclined to devote themselves too exclusively to the study and preparation of drawings, specifications and contract documents and to entrust the supervision of the work too largely to a salaried employee. The owner's active interest is in the actual constuction, not in the drawing. In watching the progress of the work he is thrown into closer contact with the contractor and the salaried employee, with the result that the value of the architect's service in connection with the actual construction seems unimportant to him.
>
> (If this is true, the correction is manifestly in the hands of the architect, himself, by surrounding himself with an organization which permits him to render the full service his client has a right to expect.)"

The Committee also issued a questionnaire for the purpose of securing the views of practicing architects generally on several phases of practice which are recognized as important. The questions which I shall quote are interesting because they indicated the thoughts which are going through the minds of the members of the Committee.

2. Do we serve all of the public or only one class, the wealthy or the moderately wealthy?'
3. Are we qualified by training and experience to render service over a wider field?
4. Over the whole field, for rich and poor, for every kind of industry and human activity, and if not, how could this best be brought about?
5. Do we pretend to a greater knowledge than we have?
14. What can we do to improve our relations with the structural engineer?
15. What will make evident our respective functions?
16. What will secure co-operation in the solution of building problems?
17. What is our logical relation with the mechanical and electrical engineers, the lighting experts?
18. What is our logical relation to the big engineering corporations that aim to furnish all kinds of designing and supervisory services?
19. How can we improve our relations with the contractors and their sub-contractors?
20. What is the reason for the success of the construction companies that aim to fulfil all these functions, designing, engineering and building?
21. How can we co-operate with, and help the workers and craftsmen (masons, carpenters, plumbers,) dependent on the building industry as we are?
22. How should we be interested in their organizations?
23. How should they participate in ours?
24. How shall we interest ourselves in the producers of building materials?
25. How shall we help to standardize details of building products in common use?
26. How shall we help to establish bases of quality?
27. Shall we try to reduce the number and variety of each product that we demand?

The Advantages of the Cost-Plus-Fee Contract.

It must be now plain that the architect's status and function cannot be considered, without considering also the status and function of the contractor. It seems almost superfluous to point out the advantages to the whole building industry from making the cost-plus-fee contract, the rule instead of the exception. It is important, however, for us to think of this proposed change in terms of results, so that we may all have a clear conception of what it is we are striving for. But when we think in terms of results, we again find it impossible to think of the architect and the contractor separately. First, the contractor, or let us call him the constructor, will be selected on the basis of confidence and his service record. Since the contractor's profit will no longer depend upon his ability to cheapen the work, which has been the motive underlying the general practice of offering substitutions, we may expect fewer discussions, of this kind in the future. Considerations of price alone will less and less influence the selection of materials. The architect and the contractor will work together instead of in opposition. The knowledge and experience in construction which the architect lacks will be furnished by the "constructor." This, to my mind, is one of the most important results that will be secured, for it must be realized, and is realized by the thinking element in the architectural profession, that ability in design, which reaches its highest development only in men who are sensitive, imaginative and impulsive, is wholly incompatible with the scientific quality of mind that works in exact terms of fact and statistics; an essential pre-requisite to the proper performance of the "constructors" function. Under the cost-plus-fee form of contract, the architect, the contractor, and the owner enter into a tri-party agreement to accomplish a single end. It does not require much imagination to see in this change in the contractor's status the reincarnation of the master builder of the Renaissance, through a virtual, if not an actual partnership of the two talents that produced the world's most inspiring and enduring architectural monuments.

The salvation of the architect, the contractor and the industry lie in such a partnership of talents. If it cannot be brought about, I predict that contractors will try to become architects as well, and that architects will attempt to become builders—and, in the broad sense, few will succeed. Buildings will be either poorly constructed or poorly designed, and the loss to the public and in the prestige of the industry will be immeasurable.

In connection with the adoption of the cost-plus-fee contract system, I wish to point out the importance of a standard cost accounting system, and the greater value of the open price plan, as a powerful factor in education and in establishing mutual confidence.

CHANGE NEEDED IN POLICY ON BUILDING LOANS.

There is one, and only one, serious difficulty which lies in the way of securing these fundamental reforms. It will be necessary to effect a change in the policy of the lender of money for construction. Relatively little new construction is carried forward without building loans. Such loans are usually a certain percentage of the contract cost of the building. The question is, can the great lending companies be made to feel that they will be amply protected in loaning the same percentage on a carefully prepared estimate by a reputable "constructor" even though the amount of that estimate is not guaranteed by a contract and bond? I believe that ultimately such loans will be secured on the basis of confidence, even more readily and with less question as to values and risks than has been the case in the past. And I believe also that loans so made will be more secure than those made on the lump-sum contract ever have been. This must be so because the building will be a better investment in that both the cost of upkeep and depreciation will be less, and because costs will rest on the stable foundation of true values instead of the insecure basis of speculation.

◆

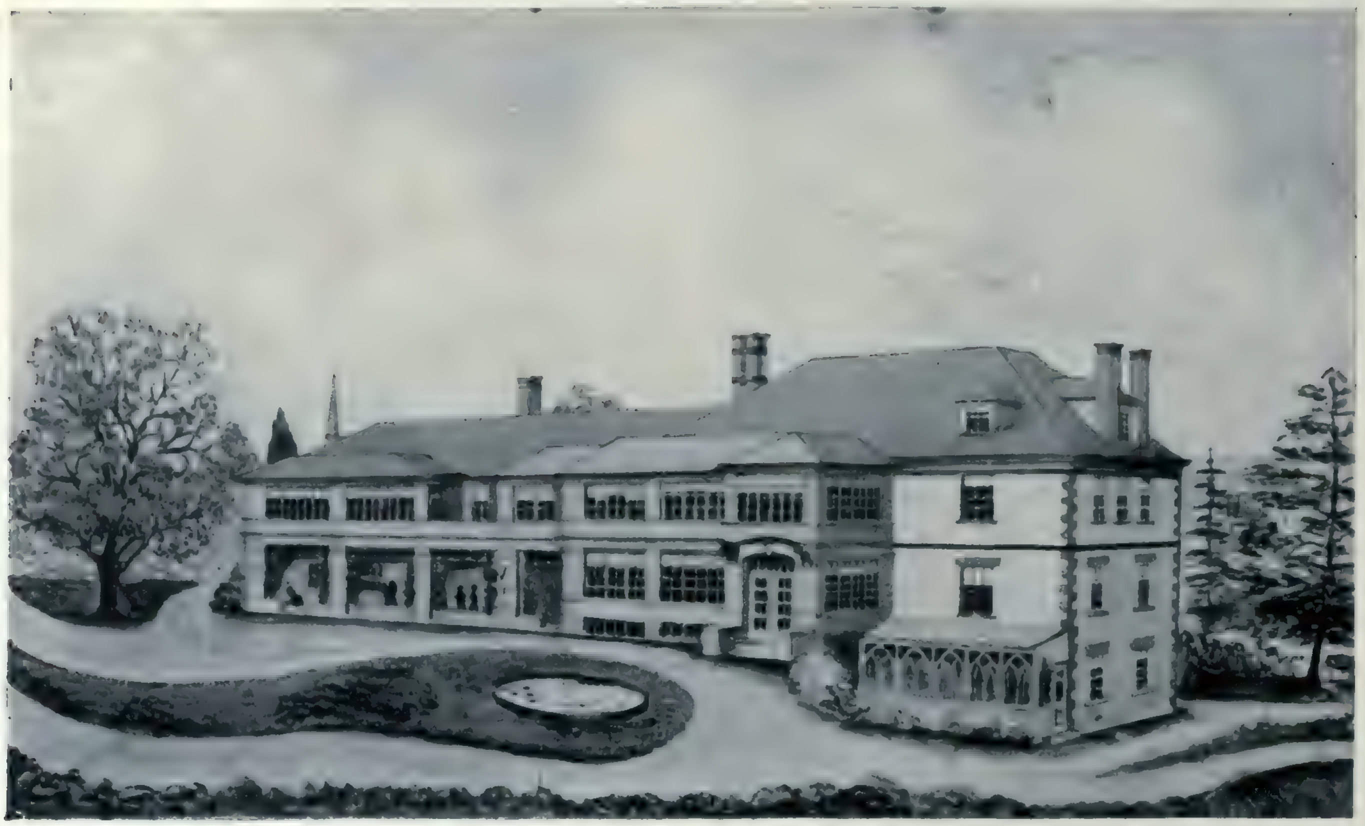
Rhodes Scholarship for Architects of Ontario

Notification has been received by Hon. Dr. Cody, Ontario Minister of Education, that the Rhodes Scholarship offered for the Exhibition of 1921 has been thrown open to the architectural students of this Province. This is accompanied by the Henry Jarvis studentship. The value of the scholarship is two hundred and fifty pounds, and the studentship two hondred pounds.

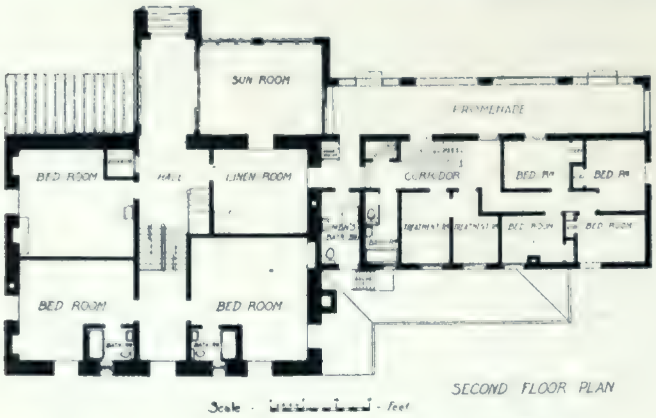
Intimation of intention to compete for these awards must be forwarded to the Secretary of the British School at Room 54, Victoria Street, London, S.W., before next January. Details of the plans and drawings will be forwarded to applicants.

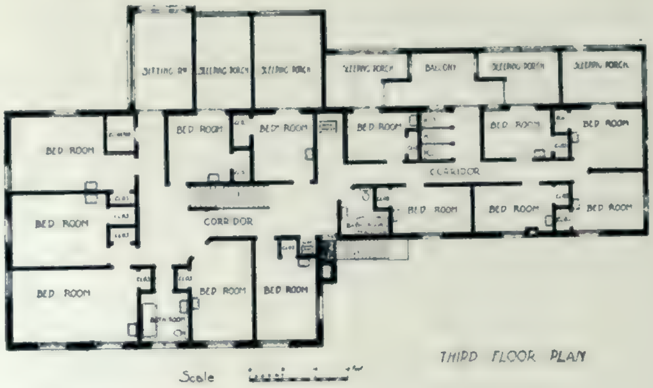
◆

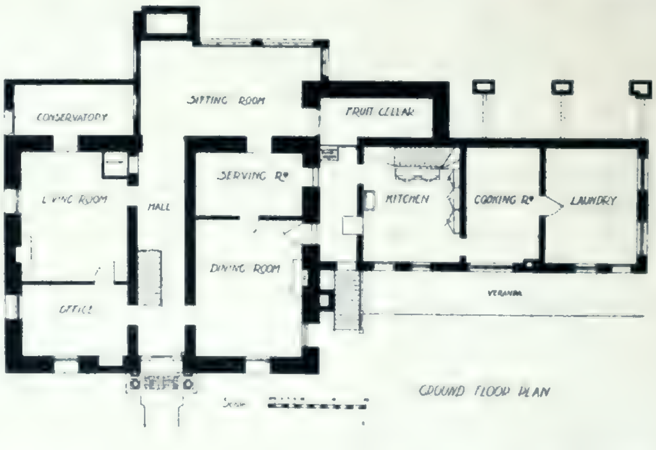
Corrosion tests that have been completed indicate that the presence of calcium chloride, although the amount used is relatively small, in mortar slabs exposed to the weather causes appreciable corrosion of the metal within a year. This appears to indicate that calcium chloride should not be used in stucco, and warns against the unrestricted use of this salt in reinforced concrete exposed to weather or water.—*Engineering News-Record.*



PERSPECTIVE VIEW FROM GARDEN SIDE.







BRAESIDE
LODGE
SANITARIUM,
PRESTON,
ONT.

F. W WARREN,
ARCHITECT.

Fire Prevention Meeting, Sept. 4

Announcement is made by Secretary Lewis of the Ontario Fire Prevention League that the special meeting for which notices were recently sent out has been postponed to the date of the annual meeting, which will open at 10 a.m., September 4th, in the Reception Room at the Parliament Buildings, Toronto. It was found that many of the members could not conveniently attend both a special and the annual meeting, coming so close together, hence it was decided to merge the two. A very successful meeting is anticipated, and all members are urged to be present.

Braeside Lodge, Preston, Ontario

Braeside Lodge is the result of the enterprise of two nurses, themselves seeking rest in the Spring of 1918 at Preston, Ont., after a long period of strenuous duty, and who conceived the need of a sanitarium for the treatment of nervous and convalescent cases. The building itself was converted from a handsome old residence, and it was the desire of the owners to retain some of the details of the existing structure and make them a feature of the new scheme, with the result that the whole institution has a very homelike atmosphere about it. There is an old colonial stairway that has a charm all of its own, and the old doorways and woodwork which gave the old colonial homes their feeling of hospitality. The architect saw the value of these details and made the new work harmonize with the old.

The main entrance leads into the hallway where the old staircase is located, with the office and private living room to the left. On the right of the hallway is the dining room, with the kitchen, serving room and butler's pantry adjoining. At the end of the hallway is the nurses' dining room, with a conservatory at one end, where flowers and vegetables are grown for the use of the building. Next to the kitchen is the cooking room and laundry.

The garden entrance is on the second floor, with a hallway running through to the elevator and stairway. Off the hallway is the solarium, with entrance on to a covered promenade. On this floor are bedrooms with private baths. Over the service wing are the treatment rooms, with bedrooms for the help farther on.

The third floor is almost entirely devoted to bedrooms, those facing the south-east having sleeping porches, while the fourth floor is utilized as one large room for recreation purposes.

Very attractive grounds surround the building, the district in which it is situated being noted for its mineral springs and its good air, the altitude being a thousand feet. The garden is particularly noteworthy, being developed under the direction of capable landscape architects, and representing a carefully-thought-out scheme. The public highways have been screened to give the place of a feeling of privacy, and there are winding paths through the garden for the use of the patients, as well as a section which is set off for lawn sports.

DINING ROOM FIREPLACE: BRAESIDE LODGE, PRESTON, ONT.

In laying out the building and grounds, consideration has been given to future extensions.

Professional Remuneration

The doctrine that architects exist primarily for the practice of an art, and that the world at

DINING ROOM: BRAESIDE LODGE, PRESTON, ONT.

large can do without their aid, somehow or other, when an artistic end is not sought to be attained, may be unpopular with the profession, but the probability is great that this is the general impression of their place and service in the public mind. This will account for the commonly received notion that architects in most occasions of their employment have little to show for their remuneration. When real architecture is required and power of design evidenced the debt to the profession is fully admitted, and the value of its contribution to the amenity of the world ungrudgingly recognized. It is, therefore, from the artistic side of their sphere of operations that assurance and advance will most naturally come to architects. Broadly viewed, the situation of the profession in the public view is secure within this its central and authoritative domain. Here uncertainty and doubt can only properly arise within the professional breast as to the competency of the art to fulfil the demands made upon it; a healthy fear of failure that is stimulative both of imagination and study. Here, again, the architect is able to make the value of his work sufficiently evident.

It is, however, in the more general and humbler sphere of contriver and director of common building operations, directly and indirectly, in suggesting various solutions of accommodation puzzles, wrestling with by-laws, neighbors and estimates, that the profession at large makes its livelihood. Thus services of real value are rendered to private individuals and public bodies, trying and arduous in nature, demanding skill, patience and experience, that from their character look difficult to appraise and liable to be under-estimated and soon forgotten. Practising architects, whose opportunities of important artistic work are rare, not unnaturally value such services as deserving sufficient recognition and remuneration. It is unfortunate that in most of these latter exercises either the conceit of clients, the experience of a good builder, or the complacency of neighbors and circumstances may reduce their necessity and apparent value. It is just possible, though the economy may be more than doubtful, that the building operation after all did not demand the assistance of so highly trained and specially qualified an expert, and that after the original provision of a

GUEST ROOM: BRAESIDE LODGE, PRESTON, ONT.

SUN ROOM: BRAESIDE LODGE, PRESTON, ONT.

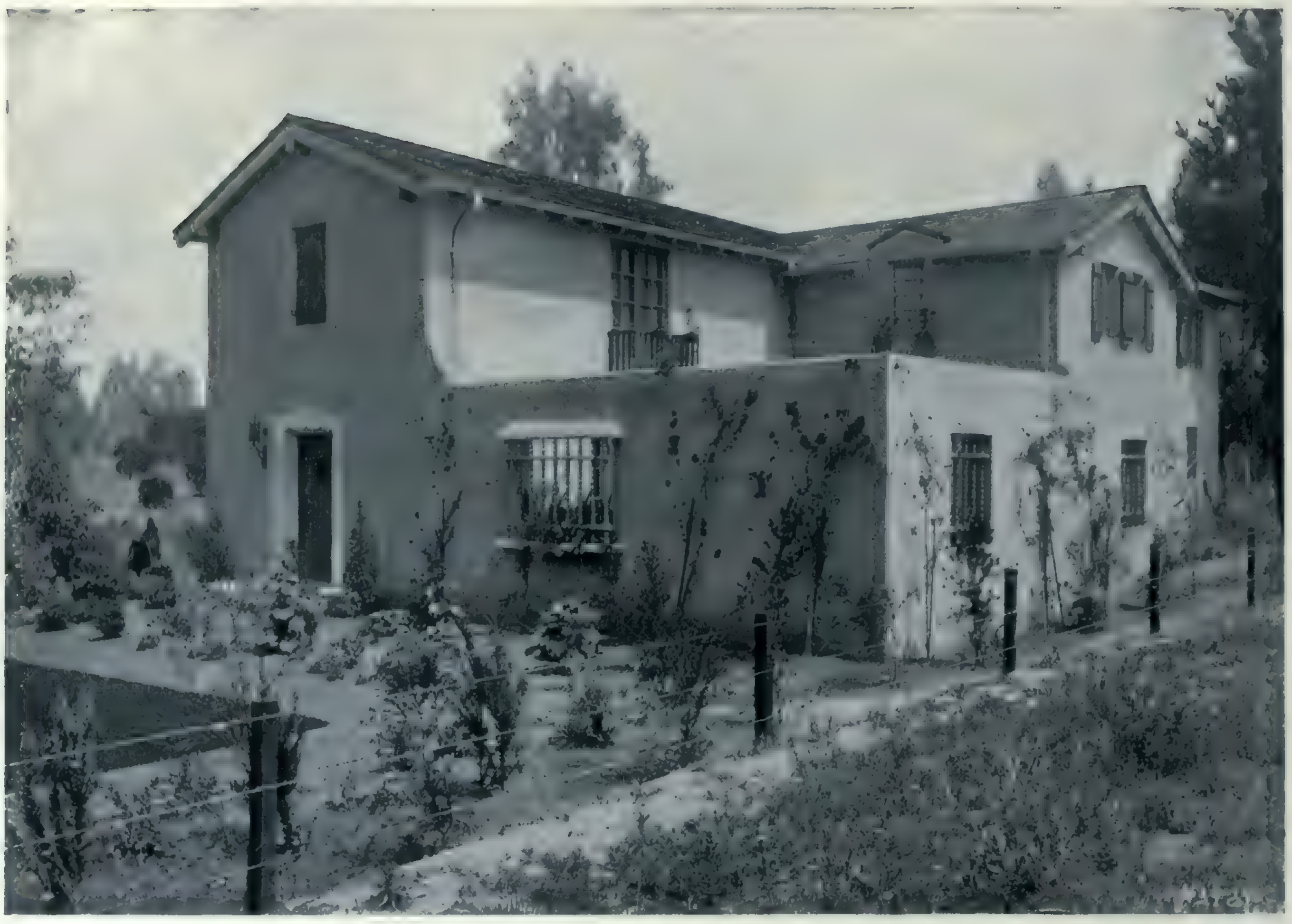
plan his activities were almost superfluous. Such may be the opinion of the world, and a consciousness of its existence seems to underly the recurrence of spasms of self-justification in a profession which does not go with the world and permit advertisement.

The situation of the architect, therefore, is delicate, in his dual capacity of artist and man of building affairs, with but uncertain occasions for exhibiting his real worth and with abundant opportunities of ordinary unrecognized usefulness, and the remuneration for many services more often than not presumed to be a matter of concession unrepresented by material. The stupid world, in its practical way, impatient of elaborately just accounts, has by a long and deep-seated custom admitted that value of architecture is represented by a commission of five per cent. on the cost of the building, and the better judgment of the profession has continually expressed its dislike and contempt of an estimation which takes no real account of the time or skill, often differing greatly in value, which it bestows without detailed computation. But, whether willingly or not, the situation has been accepted, and taking the rough with the smooth, the back has become accustomed to the burden and has submitted to evils that it knows rather than invite unknown uncertainties.

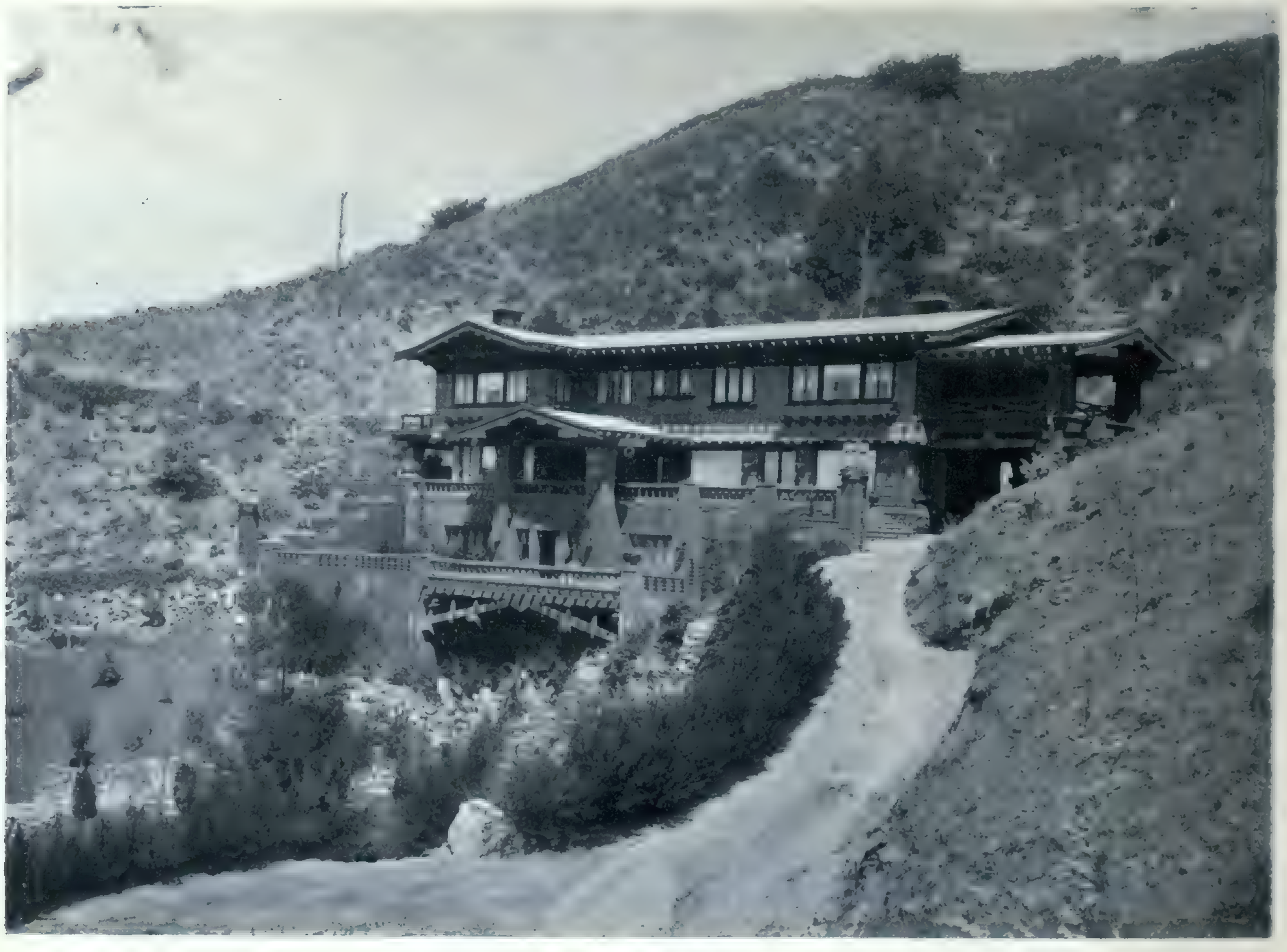
There is considerable danger to-day in attempting to disturb a system which, with the very considerable advance of building cost, promises to increase the ordinary remuneration of the profession. The danger lies in the field where, as has been indicated, architects have the greater part of their employment, viz., in the sphere of ordinary building work, where their services may be dispensed with or displaced from non-professional sources. The public will be keenly alive to any effort on the part of their professional advisers and protectors which may innocently appear to take a double advantage of the present-day tendency of unions to make the employer pay increased prices, by not only charging the normal commission on an abnormal cost, but by increasing the rate per cent. of that commission. Further difficulty will certainly

(*Concluded on page 258.*)

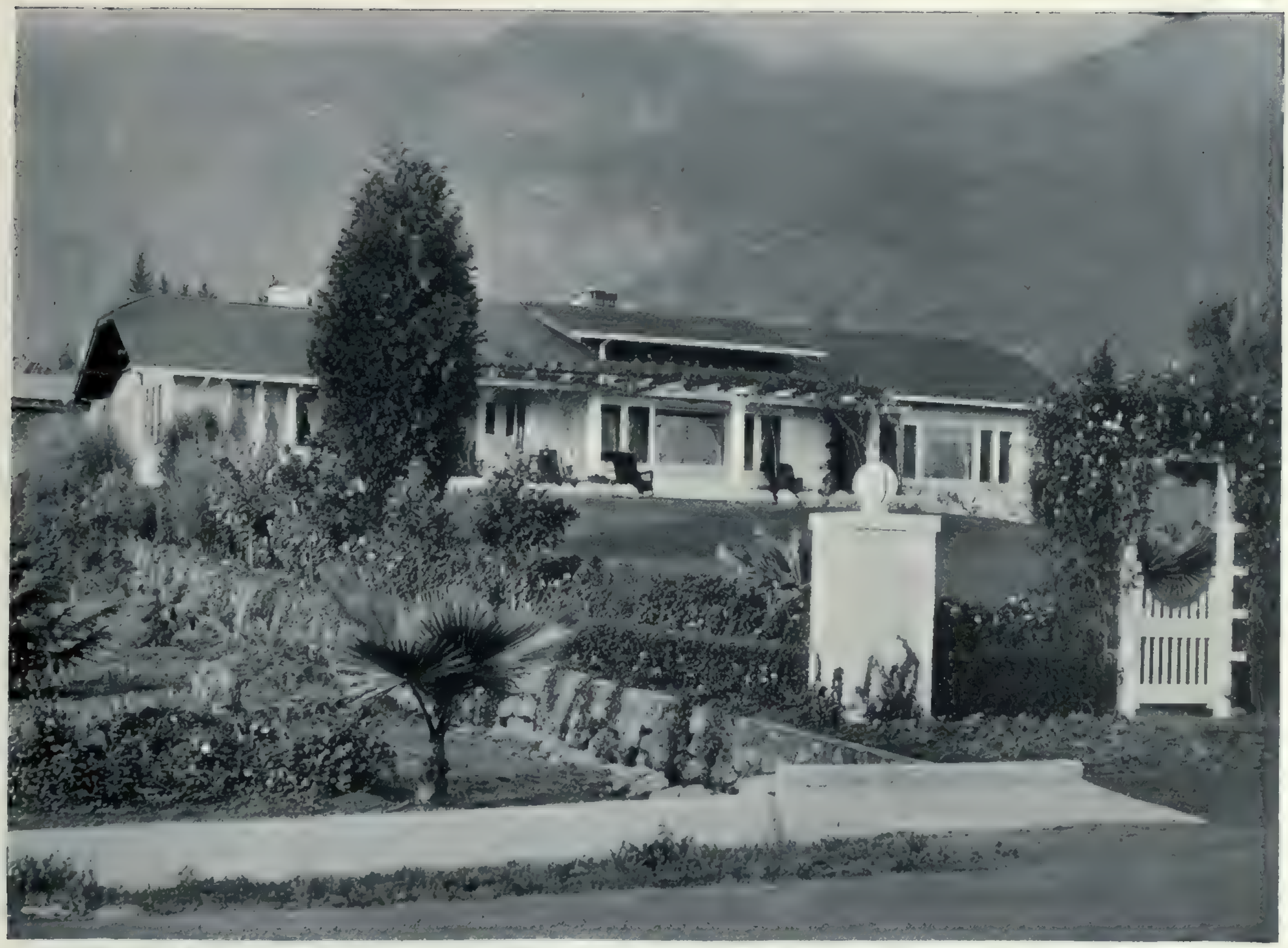
PATIENT'S SUITE: BRAESIDE LODGE, PRESTON, ONT.



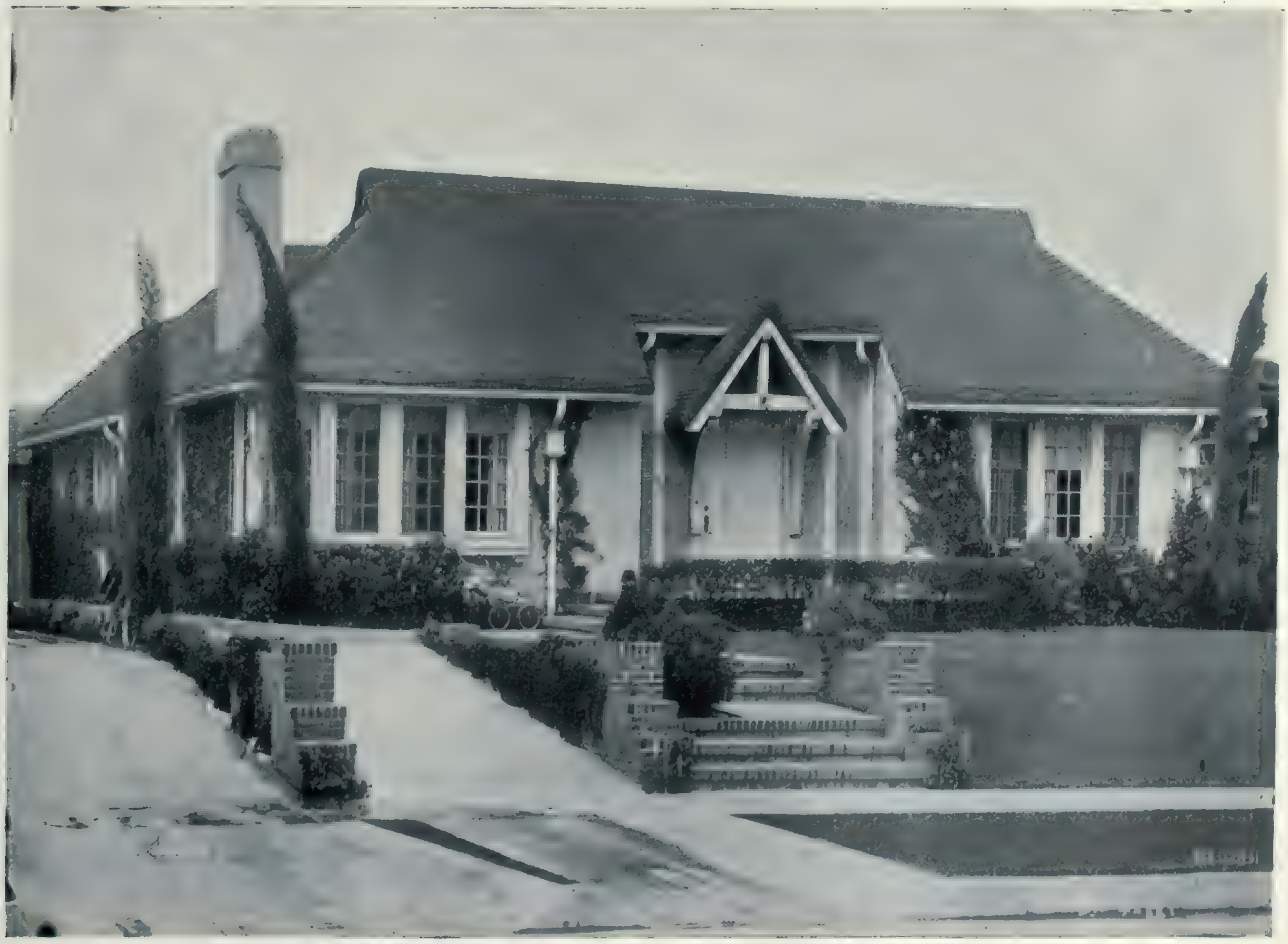
STABLE AND SERVANTS QUARTERS ON A CALIFORNIA ESTATE WITH CREAM COLORED PLASTER, GREEN ROOF AND WINDOW BARS PAINTED RED, GREEN AND YELLOW.



A MODERN CALIFORNIA BUNGALOW, NESTING IN THE HOLLYWOOD FOOTHILLS.



AN OLDER TYPE OF CALIFORNIA BUNGALOW, HAVING LITTLE DEPTH AND A DIRECT ALIGNMENT OF ROOMS OPENING ONTO A PERGOLA.



THE THATCHED SHINGLE ROOF, A SOMEWHAT RECENT INNOVATION, AS SEEN IN A SMALL CALIFORNIA HOME.

The Need of Architectural Instruction In Colleges

A MOVEMENT initiated by the Illinois chapter of the American Institute of Architects which should interest the architects and educators of this country, forms the subject of an address delivered by Mr. George C. Nimmons, F.A.I.A., at the convention of the Association of American Colleges, which the "American Architect" reprints in a recent issue. The object is to have the colleges shape their curriculum to impart a greater knowledge of architecture and the arts to college students in general, and has no reference to existing architectural schools which provide courses of instruction for students who intend to follow the practice of the profession of architecture. According to Mr. Nimmons, after the student enters upon his career in life he begins to take part in constructive enterprises where building improvements are involved, and any knowledge he possesses of this kind will to a large extent determine the character of the architecture in the community in which he resides.

To the uninitiated, the address reads, institutions of learning are supposed to include in their courses of study instruction both in the arts and sciences, as the arts have always been associated at least in name with the objects for which most colleges and universities have been founded. It always seems to be assumed that the proper education of anyone would naturally include some knowledge or information of the fine arts. The assistance which an understanding of the arts would be in the acquiring of good taste and refinement, and the appreciation of and preference for the finer and better things of life, are objects which alone would seem to be sufficient recompense for the time spent in securing some knowledge and understanding of this subject.

Yet the curricula of colleges generally stop short with the art of literature. Few of them, aside from those having special art or architectural departments, provide any material instruction in the fine arts, or more especially any means of giving the students even a fair understanding of the history or principles underlying the practice of these arts. It is my understanding that about the only information as a rule imparted to the students concerning architecture is that which is more or less incidentally referred to in the various histories of the world used in the different colleges.

While there has been as yet no definite plan agreed upon by the architects defining the exact scope and character of the subject, it seems that a clear understanding of it cannot be had at this time without at least some discussion of the nature of the architectural instruction proposed.

At the beginning it would have to be recognized that architecture is too large a subject to be treated at all completely in the limited time that might be found available in the already full courses of the colleges. There is no doubt that many subjects are being urged for consideration which cannot possibly be considered, and it is only on account of the extreme need of a better understanding of architecture, particularly among educated people, that the subject is urged so strongly for your consideration.

If the opportunity is given for the introduction of architectural instruction in colleges, the first consideration would be to select only such features and branches of the subject as would be of the greatest practical value.

It is not considered that the text books and lectures intended for strictly architectural schools would be at all adapted for the purpose in mind. These are designed for a much more extended and detailed treatment of the various branches of the subject than could possibly be included. Neither is it intended that any of the existing histories of architecture be utilized, as these do not include some of the most important topics to be presented and nearly all of them devote more space to some periods of the history of architecture than could be allowed.

The subject matter, therefore, that is intended for use in this case would have to be all newly compiled and specially prepared for the particular purpose in hand. It is probable that the best result would be secured by taking from a number of works the best treatment of the various subjects selected and adding new material as might be required.

There are a number of works of recent publication that contain some of the best discussions of present architectural problems which would undoubtedly be considered in order to bring the work abreast of the latest thought and opinions of the day. Whether this instruction should be given entirely in the form of lectures or by the use of a text book is a matter to be determined, but the text book form recommends itself, as in that case the same treatment of the subject could be at once universally applied, while if the lecture plan were adopted as the principal means of imparting the instruction agreed upon, it would be difficult at first to secure a sufficient number of lecturers fully equipped with the means to illustrate their lectures. The study of any text book, however, should be supplemented as far as possible by such lectures as could be arranged for.

The establishment of a professorship in architecture is probably too much to be hoped for at the start, but in its absence the course could be conducted by the professor of history, with which subject it is so intimely connected. . . . .

The course of instruction in architecture, therefore, would consist, first, in the study of a text book specially prepared for that purpose; second, a series of illustrated lectures supplementing the text book; third, a brief course in drawing sufficient to teach the use of tee square and triangle in laying out plans and elevations to scale; fourth, a brief course of field work in which buildings under construction and buildings which are accredited to be the best types of architecture in the vicinity would be visited and observed under the guidance of some architect or some one capable of explaining the application of the important principles learned, to the actual building.

The text book no doubt would contain a treatment at least of the following subjects:—

Definition of architecture, its place among the fine arts, discussion of construction and its various types, the use of materials, a brief history of architecture, the present methods of the practice of architecture, the making of drawings, letting contracts and supervision of the work, the theory of design, the use of historic styles in connection with modern buildings, a national style, the relation of the art of the industries to architecture, a brief presentation of the principles underlying landscape gardening, painting and sculpture and their use in connection with architecture.

Whether or not the above headings happen to be the most comprehensive titles for the various branches of the instruction (and it is probable that they are not), still the important thing at this time is the value of the training and instruction to the student.

This course of instruction would be laid out and designed to exercise and train the mental faculties as well as supply useful and practical knowledge for after life. The study of it would be similar in effect in some ways to that of a study of the humanities.

No better agency than a knowledge of the history of architecture can be used to fix a good perspective in the mind, of the different peoples of past ages. We know a nation best by its works, and if we have a general knowledge of its buildings we have then the best index of its character. We can compare the works of one people with another and with our own. We can interpret in a fairly accurate manner their aims, ambitions and aspirations.

One instinctively seeks to found an estimate of a person upon what he does, rather than upon what he says, when it is possible to secure the necessary information; a knowledge of architecture gives us this foundation upon which we can judge best of the character of the people of the past. Therefore it would be a great aid in the study and understanding of history.

This same ability to judge of the character of the people of the past would apply just as effectively to the present.

The reason that a building is such a good indication of the character of the man who built it or caused it to be built is the fact that its erection as a rule represents the hard-earned returns of his own labor or efforts; it is something for which he must usually give up all his savings and go in debt for a part of the cost besides. Then the building also furnishes him an occasion for giving material expression to the things which he likes and admires.

Architects can testify that the designing and erection of a building is as a rule one of the most serious and earnest undertakings in a man's life. It is sure to represent the best that is in him, according to his own standards, and the character and design of the buildings are very likely to represent more the ideas and standards of taste of the owner than they are those of the architect. It is the client's building; his desires, and his ideals must be incorporated and the architect is obliged to do the best he can to make the most of them. The building, therefore, as a rule truly represents the character of the owner.

A student who had received some training and instruction in architecture would have acquired thereby a new and wider scope for his judgment. The character of houses and buildings of cities must have meant little to him before; now with this instruction added to his store of knowledge he can discriminate between the good and the bad and the crude and the refined, in buildings, and therefore in the owners. He can at once make a better and more comprehensive estimate of certain qualities in an individual or of a whole community than he could have made without this knowledge. The student's character will have been improved and developed thereby to the extent of making him a better judge of the men of his day as well as of those of the past. If there is any one subject upon which the educators seem to agree as one of the important aims of education, it is upon the ability gained by education, of being able to judge men correctly. A study of architecture, therefore, would aid materially in this direction.

While this course of instruction would broaden the student's faculty of judgment with respect to his fellowmen, it would also at the same time develop and raise his own standards of taste. The instruction which would describe to him the finest of the world's accomplishments in building and explain to him the principles upon which their design was founded would thereby develop certain important traits of his own character in a manner that no other agency in college can now possibly do.

The average American student in intercourse with almost any of the students of Europe is positively at a disadvantage, and sometimes embarrassed on account of his ignorance of the fine arts and architecture especially. If he is called upon for any opinion or to give expression to his conception of anything that has to do with architecture, his views are likely to be crude, and his judgment is not only discounted, but it is likely, on account of a lack of knowledge of the subject, to create a prejudice against him. In other words, the American student appears more or less like an unpolished, rough product of education, because he is deficient in a knowledge of the fine arts, although he may have, and usually does have, just as many other sterling qualities of character as his European brothers.

It is noteworthy in this connection to recall how the alumni of colleges universally regret their ignorance of architecture. With few exceptions they always appear eager to learn something from architects about it, and they are always anxious to know how they may recognize buildings and historic styles of architecture.

It is, nevertheless, a great regret that the American student does not have his rough spots polished off by an application in college of at least a little instruction in architecture so as to make him more a citizen of the world, equipped with a knowledge and understanding of those artistic things so important to the rest of the world, and so much neglected in the past in this country.

What a great benefit a little knowledge of architectural drawing would be if acquired in college in connection with this proposed course in architecture.

A student may have learned something of drawing in his earlier days in school, but as he advances with the higher studies of college he is likely to neglect it and to minimize the very important uses to which it may be put in after life.

The purpose of the instruction in drawing in this course would be to enable the student to lay out to scale the plans and elevations of a simple building and with the knowledge and skill so gained work out the arrangement and design of a few building problems, sufficient to fix in his mind some of the fundamental principles of architecture.

This training in the first place would tend to fix in mind for life a method of drawing by which the idea of almost any material thing could be projected on paper for examination, criticism and judgment. It would afford anyone, no matter what his profession or calling, the best possible means for studying and perfecting important problems and undertakings that were difficult to visualize sufficiently for examination.

Then in an architectural way it would undoubtedly impress in the student's mind some useful rules of good construction a definite idea of how properly to plan and arrange things and some sound basis on which to found his ideas of good design and rational and beautiful ornament. . . .

The last subjects suggested in the course of instruction are landscape gardening, painting and sculpture in their connection with architecture. . . . There are few things in life that would add so much to the wholesome enjoyment and refinement of the hard-working, industrious people of this country as would a knowledge and ability to beautify and cultivate properly the surroundings of their own homes and improve and landscape the streets and open spaces of their towns and villages. Such things stand for contentment, much-needed recreation, happiness and good citizenship, and are therefore some of the strongest influences for a higher and better life of the people.

It is beyond the scope of this paper to go into the fields of painting and sculpture and even attempt to recount the benefits that would result to the students from a real understanding and appreciation of these two great arts. But in this proposed course of instruction there might be introduced sufficient instruction to give the students some idea of the principle underlying these arts, the objects which the various schools of art endeavored to attain, and some guidance as to how best to enjoy and appreciate works of art. . . .

After he has entered upon his career in life, his first serious direct contact with architecture will probably be the building of his own home. Its plan and arrangement will be responsible to an important degree for the easy running of his household. The effect of its design and surroundings will be those silent and yet potent influences in crystallizing his own ideals and standards of taste and refinement and in moulding those of his children.

As he progresses in life and begins to take part in constructive enterprises where building improvements are involved, his choice and decision on the arrangement and design of important buildings will naturally be sought. At this time his decisions and the results of his knowledge of buildings and architecture will increase in importance, because he will not only fix the character of his own buildings, but that of public buildings as well.

If this career lies in the field of business, then he may have to do with large and important commercial and industrial buildings. His judgment will have to be passed upon buildings whose plan and design may have much to do with the success of the business to be carried on. The army of employees engaged in the industries, together with their families, now constitute a third of the entire population of this country. Provision for housing them in wholesome and satisfying quarters is to-day one of the important problems of national concern. The workshops for the men, in order that business may meet competition and that wages sufficient for a decent living may be paid, must be models of efficiency and at the same time provide completely for the welfare of the employees. All these great questions are connected intimately with the plans and designs of buildings. Architects and engineers may draw these plans, but their character and their final approval in the last analysis comes down to those in control of the business, and their knowledge of building and architecture must guide them in their final decision.

Our industries need every help and encouragement they can get in these times of reconstruction. One of the greatest handicaps to some of the American industries in meeting foreign competition in the past has been the relatively poor appearance and design of some of our products as compared with those of Europe. American designers of industrial products often do not seem to understand the first principles of good design, neither do they understand as a rule the use of color and its combinations. Their products are often coarse, crude and ugly as compared with foreign ones. The trouble is that they have never had any knowledge of architecture. Architecture is the mother art from which the ideas for construction, ornamentation and design of industrial products are taken. Some of the awful things of industry would never have appeared in the market if the industrial designer had only understood that one single basic principle of architecture, viz., that good design and ornamentation can only grow out of a logical development of construction, fashioned so as to meet the functions for which the thing was created. If a single instance were to be mentioned to exemplify the above statements, there is probably no product of the manufacturing industries of this country that deserves this distinction so much as the American stove, and that variety so properly named the base burner. This product which is made up in its design of the most hideous gegaws and jimcracks, polished and silvered so as to vainly pronounce itself to the eye, is a creation which would seem to come from the lowest savage. As an example of design it might very properly be ascribed to the heathen as an altar erected after their own fashion to glorify some strange and hideous god. The tragedy of the whole matter is that this is the fireside of thousands of American families, who have to sit around it through the long winter months. Their children growing up have this thing in their homes to pervert their standards of taste and degrade their ideas of design and ornament.

Such things absolutely never could have been created, or never would have been bought, if the people generally had received some instruction in architecture. As the tendencies of a large proportion of American people are toward the industries and as a great many of them so engaged look to the colleges to train and educate their children to carry on their business, the need for architectural instruction in college so far as the industries are concerned is very pronounced.

The January Bulletin of the Art Institute of Chicago has very fittingly summarized this aspect of the industrial situation in the following words:—

"A great industrial nation without an industrial art can after all be great in bulk only. When practically every industrial and commercial nation in the world excepting ours has long seen the light on this subject, it would be a perilous thing to venture forth with our wares upon the seven seas without a new reckoning."

If the student elects to follow any of the professions as his life work, then this instruction in architecture will be equally important. If he is a lawyer and his practice is with corporations or estates, much of his work will have to do with buildings and architecture. If he is a physician, his practice will from the first be closely connected with hospitals. If he is a teacher or professor, the college buildings will become intimately associated with his work; and if he chooses the ministry as his calling, the architecture of churches will at once become a subject of the greatest importance.

As the student progresses in life and succeeds in taking his place in the control and direction of affairs, he sooner or later will be called upon to assist in determining and approving the plan and design of public buildings, and it will be his judgment and his standards of excellence and right planning that will determine the character of the architecture of his community.

If the student in his advancement is afforded the advantage of travel and study abroad, his deficiency in a knowledge of architecture will be felt all the more keenly. He who doesn't know one architectural style from another will probably fly to the rescue of Baedeker on the way over, in his haste to prepare for a first acquaintance with the world's great masterpieces of art.

It is a strange and unaccountable fact that these great works of art which the rest of the world prizes and appreciates so highly should arouse so comparatively little interest in this country, and when it is considered that these are the finest and greatest works of man in the building art, it is more surprising that the institutions of learning in this country do not teach at least enough architecture for the traveller to enjoy and appreciate them. It would seem that the proper education of a man was not complete without such instruction.

While this plea for architectural instruction may be founded somewhat on criticism of omissions in the present courses of college instruction, as well as on the benefits to be gained, still the writer is not unmindful of that purpose of college education which is the greatest of all, viz., the designing and the building of the highest form of Christian character. And it is most gratifying to know that, in spite of the effects of the war, the French and British Educational Commissioners who have just visited this country are entirely in accord with this high ideal, as indicated by their public utterances. Sir Henry Alexander Miers, a distinguished member of the British Commission, speaking at the University Club concerning the war and the aims of education, said: "The real objects of education are truth, honesty and justice."

Even if our colleges accomplish nothing beyond the cultural and moral training of the students, no one could properly have anything but praise for the good which they would do; yet it is recognized that it is essential for the sake of students and for the support from the people of the country that a college education must, without losing sight of its main object, include in its training and instruction as much as possible of that which would be of the greatest practical value in life after graduation from college. Certainly, this proposed architectural instruction has much that would be of great value in that way as well as a strong cultural and refining influence in an educational way. . . .

As it is, we have never been able to advance far in the development of any architecture of our own, we have never been able to improve materially and in some ways not even equal the architecture of the past. We have the advantage which other nations of the past did not have in our photography and books with their illustrations. What we want now is to begin where they left off and progress. We want to get something more significant of ourselves into our buildings; we want to see the Greek fret, the acanthus and lion's head of Imperial Rome, or the fleur de lis of France, or such ornaments which have no national signifiance for us, give way to our golden rod and our wild flowers, our buffalo head, our Indian lore and all those reminders of our own national existence, which is full of opportunities, and we want to see our wonderful new steel skeleton and our reinforced concrete constructions clothed with an architecture our own in spirit, representative of our institutions and worthy to stand as a fitting record and monument of our archievements for the people of the future.

A "Cedarvale" Residence,Toronto

Illustrations—See Page 5.

The Cedervale district, Toronto, has recently witnessed the development of a number of interesting houses, of which two subjects were shown in a previous issue. In this number we are illustrating another example, the residence of H. B. Taber, Esq., on Hillbrow Avenue. This house is located on a level site 50 x 144 feet. Towards the rear of the lot there is a beautiful ravine, and for this reason the kitchen was placed at the front, which permits of a plan which gives the dining room and living room the advantage of a splendid outlook. Both of these rooms and the hall have French doors leading to the garden porch.

On the second floor there are three large bedrooms, one of which is 14 x 24 feet in size. The attic floor has two maid's rooms, a maid's bathroom and a storeroom.

The house is faced with four-inch stone, backed with eight-inch tile to the second floor level. The stone is laid at random, with wide joints, consisting of Queenston limestone, Indiana, Travestine, brownstone, marble, etc. Stucco on eight-inch tile is carried from the second floor to the underside of the roof. The roof and exposed rafters are stained dark and are in pleasing contrast to the stone and stucco, the garden porch having a stone floor and stucco ceiling.

The entire ground floor except the kitchen is treated in gumwood, walnut finish. The bedrooms are all in white enamel, the vestibule and bathroom having tile floors and the latter a Keen's cement dado. The heating is hot water.

◆

Electrical appliances for domestic purposes are advocated by the Women's Housing Subcommittee of the Ministry of Reconstruction's Advisory Council of Great Britain, which has been considering the matter of improved living quarters for working-class families. It is stated that when the houses and water supply are heated and the lighting and cookery done by electricity, half of the domestic work now necessary will be eliminated. Other recommendations are in reference to furnaces, hot-water heaters, kitchen cabinets, clothes-drying racks, and water-proof wall surfaces, which are already common in the majority of even the less expensive types of Canadian houses.

CONSTRUCTION

A · JOURNAL · FOR · THE ARCHITECTURAL
ENGINEERING · AND · CONTRACTING
INTERESTS · OF · CANADA

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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

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WESTON WRIGLEY, Business Manager
FRED. T. HOLLIDAY, Advertising Representative

Vol. XII Toronto, August, 1919 No. 8

The Late Andrew Carnegie's Gifts

The name of Andrew Carnegie will endure both as one of the great captains of industry and as a large-hearted public benefactor. Through the generous gift of his millions many cities and towns in Canada and the United States owe the fact that they have respectable public libraries. In many cases these are better and more costly buildings than local boards themselves would provide, and have done much to raise the standard of community structures. Mr. Carnegie in this manner did much in the interest of architecture. It was always a condition in donating a sum for a library that the plans must first meet with his approval; also that the community which received his gift must agree to provide a stated annual sum for the upkeep of the building. This was Mr. Carnegie's way of making his gift permanent. It expressed his foresight and his desire to place his benefits to mankind on an enduring basis. If a city or town failed to give this guarantee, it received no consideration.

Altogether it is estimated that Mr. Carnegie gave away over $350,000,000. One of his great gifts was the Peace Palace at The Hague, which was established as a place where nations might arbitrate and settle their differences, and whose object was superseded by the present League of Nations. The great philanthropist visited Toronto shortly after the Reference and Circulating Library on College Street was completed. At that time he expressed his views as to the architecture of libraries, stating that they should not be gaudy in character, but should stand in place in quiet and simple dignity, as if to say, "My treasures are within." Not only did he give of his great wealth to provide for the erection of many such buildings, but he also had a well-formed idea as to how they should be built and maintained.

◆

Toronto Draughtmen Organize

Construction has just received a circular drafted by the executive committee of the recently formed Draughtsmen's Association in Toronto, which was organized on May 16th, and has since been building up its membership. This circular defines the aims and objects of the organization, which, divested of superficialities, are substantially as follows: (1) To promote a higher regard for professional etiquette among its members; (2) to ensure that all work be carried out by men of proper qualification; (3) to establish a broader acquaintanceship and understanding among its members for their mutual benefit; (4) to enjoy the benefits of class instructions and lectures to be given by advanced members or by professional men; (i) to operate as a compact professional body in reference to their interests; (6) to encourage high ethical standards; (7) to promote such interest and participation in public and quasi-public affairs that will show the draughtsmen to be men of general and civic ability; (8) to create a more equitable relation between employers and employees.

"Last, but not least," the circular says, "that by inspiration and thoroughness in the training of junior draughtsmen this Association aspires to do what the societies of architects and engineers have failed to do, namely, to impart a more sound training in every branch of the arts and sciences pertaining to their work and ensure better recognition of the draughtsmen as a co-ordinate of the architect and engineer."

Construction believes that an association of this kind can do much to assist its members and that it can obtain the co-operation of architectural and engineering bodies. There is no reason at least why their should be any conflict of interests. If in no other way, it will serve to promote a better spirit of fellowship and progress among a large class of men who are identified with similar interests. The association altogether includes all classes of draughtsmen—architectural, mechanical, electrical and engineering—and hold regular semimonthly meetings. Time and space does not permit of us going into further details, but it is a subject which may again be dwelt upon in a subsequent issue.

Professional Remuneration

(*Continued from page 249.*)

attend the many explanations that must attend varying scales of percentage designed to fluctuate with the increases often attendant on progressive operations, and the suspicion that the protector of the client is mainly concerned with protecting himself against his client will be hard to disperse.

An impartial wisdom will suggest that any uncertainty that exists in the public mind as to the place of the architect will be determined upon economic and not upon professional grounds. This should premonish architects not to disturb at present the generally accepted five per cent., in case the argument of its application to abnormal costs may be pressed to its logical conclusion.

Korean Houses

When a Korean begins to build a house he first lays down a system of flues where the floor is to be. These flues begin at a fireplace, usually built in an outer shed or in a closed alleyway connected with the house. From the fireplace the flues branch out like the ribs of a fan and end in a trench at the back of the floor space. This trench, in turn, opens into a chimney, usually built at some distance from the house. Wheen the flues are completed the builder carefully covers them over with flagstones; he then cements the whole floor and covers it with a short of thick oiled paper for which Korea is famous. The rest of the house is then built round the completed floor.

The heating system works in this way: When it is time to cook the rice for the morning meal the housewife lights a little straw or brushwood in the fireplace in the outer shed. While the rice is cooking, the heat from the fireplace passes through the flues, heating the stone flags of the floor and diffusing a pleasant warmth that lasts until it is time to prepare the next meal. Two heatings a day generally suffice to keep the floor warm. On the floor the people sit by day and sleep by night. The heavy oiled paper that covers the floor prevents any smoke from entering the room.

CONTRACTORS and SUB-CONTRACTORS

As Supplied by the Architects of Buildings Featured in This Issue.

UNION BANK BUILDING, COR. SPARKS AND METCALFE STREETS, OTTAWA.

Plumbing and Heating, McKinley & Northwood, Ltd., and M. M. O'Connell, Ltd.
Plastering, Chas. Hunt and T. Brethour & Co.
Painting and Glazing, W. J. Carson and P. Stewart.
Marble and Tile, Calkins Tile Co. and A. K. Mills & Son.
Structural Steel, Canada Foundry Co. and Dominion Bridge Co.
Carpenter Work, Smith Bros.
Mason and Brick Work, Holbrook and Sutherland.
Vacuum Cleaning System, Spencer Turbine Vacuum Cleaning Co.
Bronze and Copper Work, McFarlane-Douglas Co., Ltd.
Iron Stairs, Canada Foundry Co. and F. A. McKay.
Electric Fixtures, Moran & Hastings, Ottawa Electric Co., and McDonald & Willson, of Montreal.
Elevators, Otis Fensom Elevator Co.
Mail Chute, Cutler Mail Chute Co.
Vault Doors, J. & J. Taylor, and Canadian Fairbanks-Morse Co.
Building Directory, Mantel-Stewart Co.
Bank Fixtures, Canadian Office and School Furniture Co.

ARCHITECTS' SPECIFICATION HANDBOOK.

One discerns the thoroughness with which the Trussed Concrete Steel Co. aims to be of service to architects in glancing through the "Architects Specification Handbook," which this concern has recently issued. Undoubtedly most architects have a copy of same by this time; if not, they should endeavor to secure one. It is issued in loose leaf form and consists of specification sheets dealing with waterproofing, damp-proofing, technical paints, coating and floor hardeners. In addition to indicating how "Truscon" prolucts can be specified, there is much useful information as to the character of composition and application of these materials. A large list of "Truscon" users is also published. A copy can be obtained from the head office at Walkerville, Ont.

A COAL OIL ENGINE.

What is claimed to be an efficiently and economically operated engine for various purposes, is now being placed on the Canadian market by the Dominion Supply Company, Confederation Life Building, Toronto. This is the Hoag Oil Engine, which, it is said, offers a number of advantages over the gasoline type of engines. One of its features is the fact that it has no electrical devices whatever, the burning of the oil being brought about by mechanical means alone, thus doing away with the usual time and trouble involved in fixing the electrical ignition. The engine, it is said, starts easily, even in the coldest weather on the fuel it uses, namely, coal oil or fuel oil, and has a stated operating capacity of 6 H.P. on 3½ gallons for ten hours. In that it has no carburetor, gasoline or electric spark, it is claimed that it is impossible for it to backfire and that hence it minimizes any danger of igniting any inflammable materials near the engine. Full information as to its construction and advantages may be had by addressing the above company.

NEW MUELLER CATALOGUE.

Some idea of the extensive line manufactured by the Mueller Mfg. Company, Limited, of Sarnia, Ont., is obtained from Catalogue "A", which the company has just issued. Incidentally the magnitude and industrial importance of the plant which is necessarily required to produce such an excellent range of products, become quite obvious. The catalogue is a splendidly illustrated and printed book of 275 pages, featuring water, plumbing and gas brass goods. The company states that through the expansion of the Mueller line, coupled with the company's policy in standardizing and eliminating duplication, it has been found necessary to establish an entirely new set of plate numbers for the firm's products. With the exception of tapping and drilling machines every article in the catalogue has a plate number preceded by the letter "A." The company emphasizes that goods should be ordered by the plate number prefixed by the letter "A," not by the name of the article. The figuring of cost has been greatly simplified by the adoption of per piece price list almost exclusively. At the back of the catalogue is a telegraph code, which makes it possible to wire an order at slight expense. The new catalogue superceded all previous Canadian catalogues, booklets, etc., and the plate numbers and prices printed therein. Architects and plumbers will find the new edition of every-day value, and should lose no time in securing a copy from the Sarnia office.

CENTRAL STATION AND INTERIOR HEATING EQUIPMENT.

The American District Steam Co., of North Tonawanda, N.Y., has just issued a special 80-page catalogue descriptive of their Central Station and interior heating equipment. Also an interesting folder entitled "The Radiator has the Floor," describing the Adaco Vapor Heating System. They will gladly send same to any one interested.

September, 1919 Volume XII, No. 9

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H. GAGNIER, Limited, Publishers
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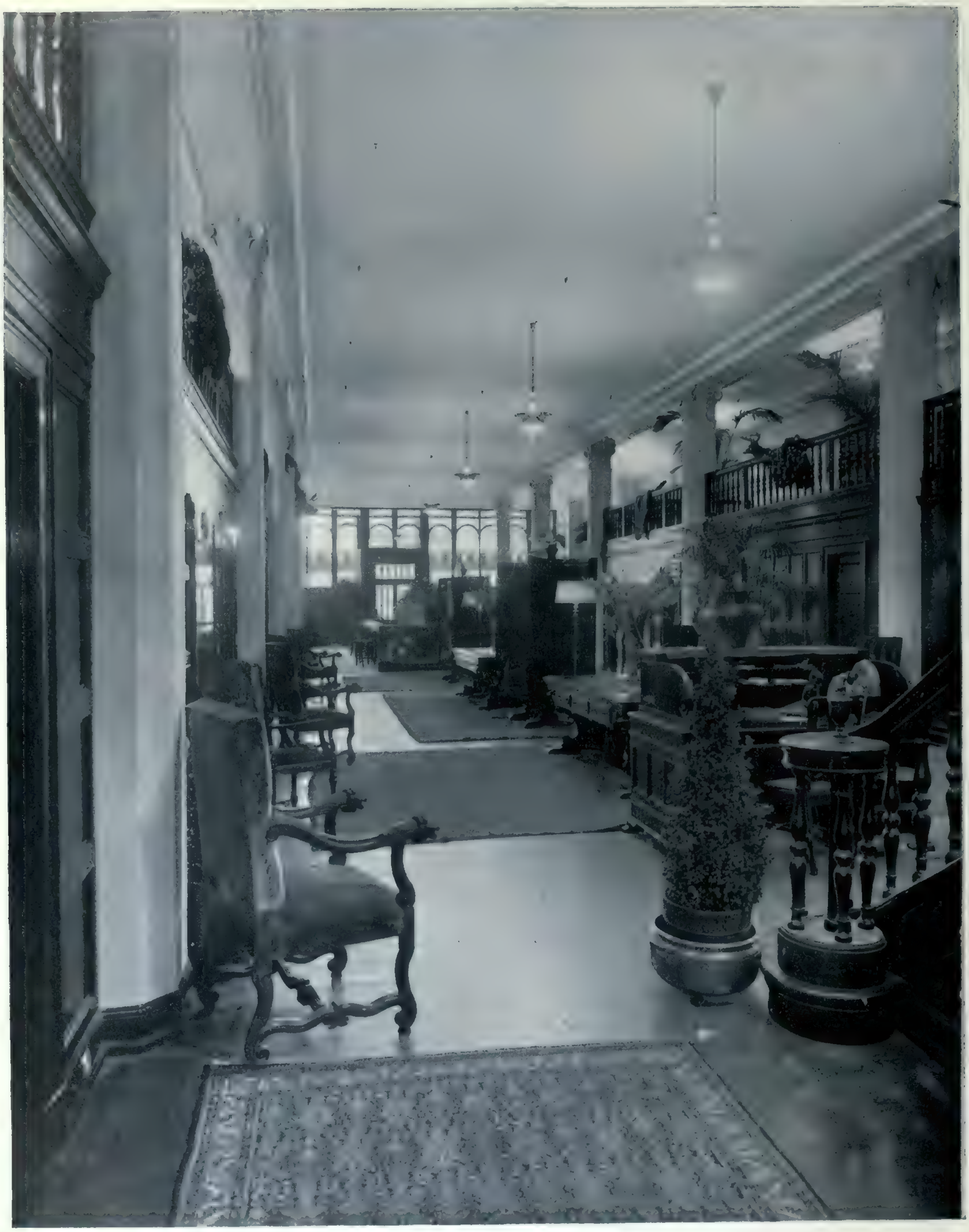


GROUND FLOOR: VIEW TOWARD ENTRANCE.

RETAIL STORE OF FAIRWEATHERS, LIMITED, TORONTO.

CHARLES S. COBB, ARCHITECT.

Retail Store, Fairweather's Limited, Toronto

THIS establishment carries on a specialty business in ladies' fine furs, and other wear, and suggested in many ways a refined architectural treatment to serve as a fitting background for the display of merchandise of rather a luxurious character. The building was consequently planned with this idea in view, but, of course, limited by considerations of cost.

The exterior on Yonge street is constructed of buff Indiana limestone, the detail being reminiscent of the Italian Renaissance. Cast bronze is employed for the ground floor show window trim combined with a black and gold marble architrave around the main entrance. The cornice of the building is decorated in bright colors and can be illuminated.

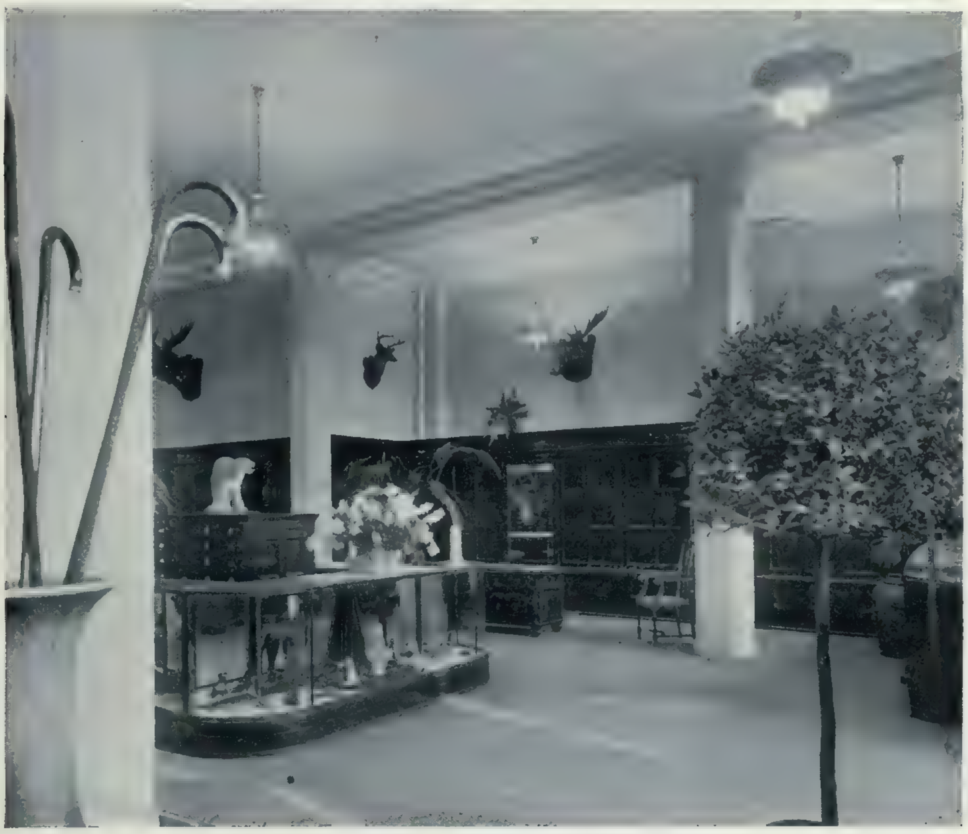
In the economical construction of the building, which has a frontage of 42 ft., it was decided to have a 22-ft. central bay with eleven-foot side aisles. This arrangement has resulted in an interior of considerable architectural character, the side aisles providing ample space for wardrobes, the general scheme being to keep the merchandise under cover in contrast with the usual massed display of the departmental store. The central bay of the selling floors is left quite clear for selling space.

The trim of the show windows is African mahogany stained brown, while that of the ground floor is of birch of a similar finish.

A mezzanine gallery is carried around the rear of the ground floor, providing office space, and from which can be observed the operations of the entire floor below.

Artificial stone is used on the ground floor for the wall surfaces. The floors are of cork tile and quartered oak. All of the furniture was specially designed to correspond to the general treatment.

On the second and third floors are the departments devoted to millinery, women's suits, coats, and lingerie. Enamel in putty color, gray, and ivory is used on the trim.



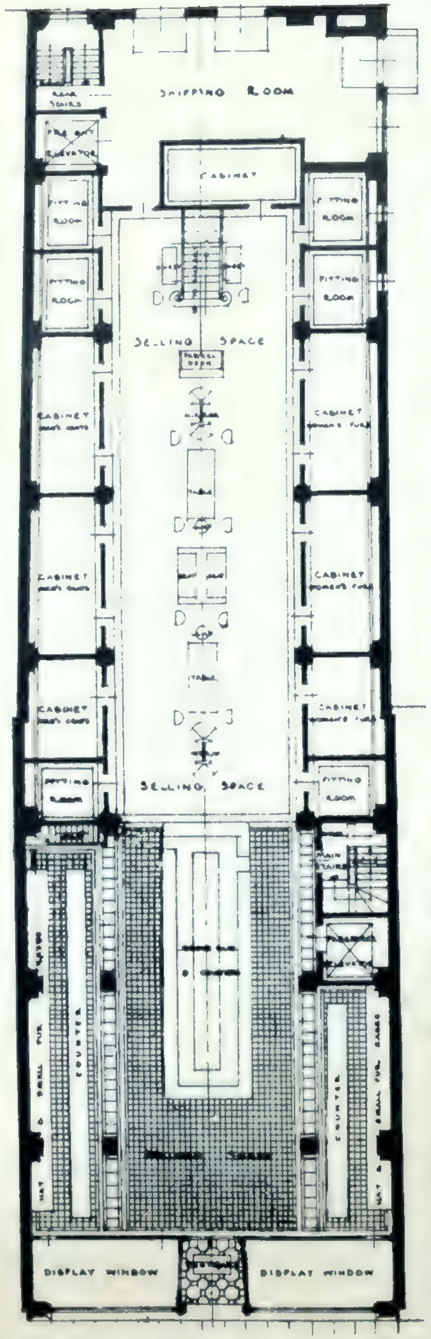
GROUND FLOOR VIEW: FAIRWEATHERS, LIMITED, TORONTO.

The fourth floor comprises the work-rooms abundantly lighted and in close contact with the selling floors below to give satisfactory service

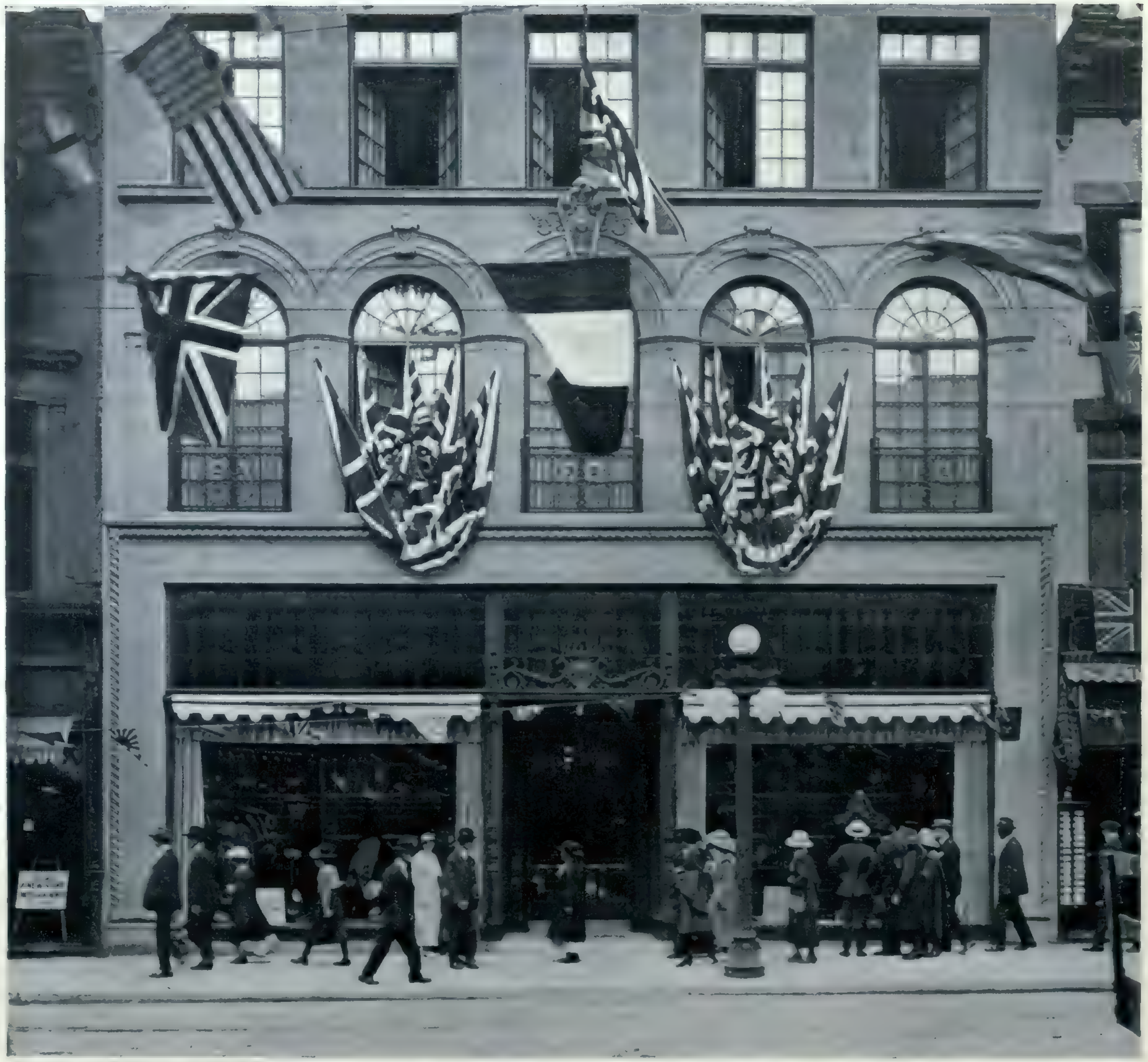
All the various departments are connected with a modern tube system, and the general mechanical features are up-to-date throughout.

The general construction of the building was first designed for reinforced concrete, but was finally changed to mill construction, it being found that due to the very large amount of insurance which had to be carried on the stock, necessitating automatic sprinklers in any event, that the annual saving in insurance on the reinforced concrete building with sprinklers simply amounted to the carrying charge on its increased cost.

The cost of the completed building was ap-



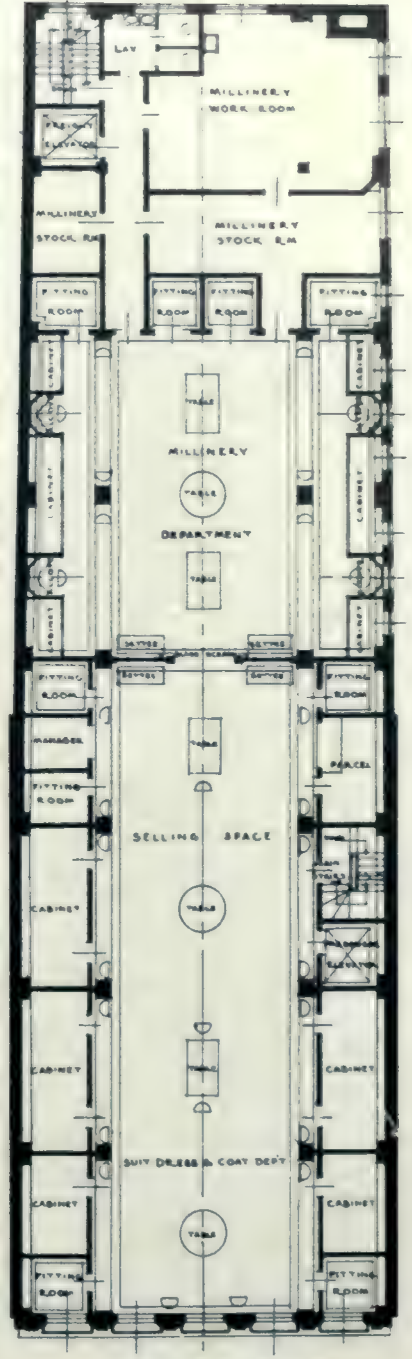
GROUND FLOOR PLAN.



DETAIL OF LOWER FACADE.

RETAIL STORE OF FAIRWEATHERS, LIMITED, TORONTO.

CHARLES S. COBB, ARCHITECT.



SECOND FLOOR PLAN.

proximately 34 cents per cubic foot.

Curiosities of Rare Woods

With the development of the woodworking art and the expansion of the furniture trade there came a demand for new and rare woods, and explorers searched the forests of the earth for different effects of grain and color, writes the "Canadian Woodworker." From the Andaman Islands, from unexplored Africa, from Borneo, from the remotest corners of the earth, woods rivalling the mahogany of Mexico and Cuba have thus been brought to light. From the Philippine and Hawaiian Islands, and from the forests of South America, strange woods have been obtained of wonderful grain and color effect, which are still hardly known by name.

Lately, attention has turned more to fields at hand. Gnarled old trees, twisted and insect-stung, despised by the lumberman, are yielding ornamental woods worth many thousand dollars. Curly-birch is but the twisted grain of the ordinary tree, obtained usually from a crotch or where a trunk has been twisted by frequent wind storms. To-day the birch tree that holds the greatest number of these curly burls is considered more valuable than the tall, straight tree without a variation in its normally developed texture. Bird's-eye maple is caused by the sting of an insect whose poison produces a sore in the tree. Nature, attempting to heal the injury, pours new sap into the wound to neutralize the effect of the poison. The outward effect is of a number of excrescences; but when the wood is cut, veneered and polished, the beautiful bird's-eye maple effect is obtained. It is generally the apparently worthless small scrub-oak that gives those delightful pith rays, flaming curls and intricate patterns of light and dark shades that quarter-sawing brings out.

The finest Circassian walnut comes from misshapen, dwarfed trees on the shores of the Black Sea; and the most beautiful parts come from the twisted roots, the burls caused by insect stings. Such growths are so interwoven that they produce the curious and irregular graining which makes the wood more valuable for veneers than mahogany.

STREET ELEVATION.

RETAIL STORE OF FAIRWEATHERS, LIMITED, TORONTO.

CHARLES S. COBB, ARCHITECT.

No two mahogany trees are quite alike. Formerly only the tall, well-formed trees were cut for trade; now it is the misshapen tree that is more keenly sought. The wood expert searches the forests for some abnormal growth. Pieces cut from a crotch sho wthe graceful curls so much desired in fine furniture. Sometimes the figure shown is of flame-like tufts, called "feather" in the trade. As often happens in some mahogany trees, the fibres are arranged

GENERAL VIEW OF GROUND FLOOR: FAIRWEATHERS, LIMITED, TORONTO

spirally by a freak of nature, and when cut lengthwise light and dark stripes are exposed.

The ebony from southern India and Ceylon has a perfectly white outer wood which is neither beautiful nor useful. There is no grain to it. It is the intensely black heart-wood that is used so extensively for inlay work. The tiger-wood, or Congo walnut, owes its flaming effect to some unknown freak of nature, for the best of it comes only from a limited number of selected trees. East India mahogany, or vermilion wood, owes its coloring to soil, climate and other natural agencies

But all these woods, and others unnamed, require the application of industrial art and science. Skilful dressing and polishing is necessary to bring out their veining and other characteristics. Science is brought to bear in making their exploitation commercially possible; for instance, enabling veneers to be cut to less than a hundredth of an inch in thickness. So the architect and furniture designer get the great choice of beautifully grained woods which they blend and work into the harmonious effects in which we so excel to-day, surpassing the highest ambitions of the artists in wood of the preceding century.

Fire Prevention Meetings

Preventive measures to reduce waste from fire were discussed at two important meetings held in Toronto during the past month. One was the annual meeting of the Association of Fire Marshals of North America on Aug. 26-to 29th, and the other the convention of the Ontario Fire Prevention League, which was held in the Parliament Buildings on September 4th. Both meetings had much in common, papers and addresses being delivered dealing with administrative problems and the benefits to be derived through education and propaganda. According to various speakers, in South Dakota and other parts of the United States, "fire prevention" was made a compulsory, or at least an incidental, subject in the schools, with the results which could hardly be questioned. By inculcating in the child the need of safeguarding property, the

MILLINERY DEPARTMENT, SECOND FLOOR: FAIRWEATHERS, LIMITED, TORONTO.

HOSIERY AND GLOVE DEPARTMENT, GROUND FLOOR: FAIRWEATHERS, LIMITED, TORONTO.

idea is taken into the home with the result that conditions which cause fire are remedied or removed.

As regards factory buildings, one of the delegates advocated that the following points should be considered: The design should guard against self-exposure to fire from outside; (2) automatic sprinklers should always be installed; (3) someone familiar with the operation of the sprinkler apparatus should always be in the building; (4) hand-fire equipment should always be available. Special cases would require special remedies.

Deputy Fire Marshal Geo. F. Lewis, Secretary of the Ontario Fire Prevention League, gave an outline of the progress being made as regards fire prevention in that province, and stated that the Government has been asked to have cancellation stamps used on letters during the "clean-up" period around October 9th, to read "Fire Prevention Day Clean-Up."

It was also announced by Hon. H. J. Cody, Minister of Education, that in order to stimulate the interest of the children, the Ontario Government would give one thousand gold-plated medals for the best essays on "Fire Protection" by pupils in the third and fourth classes.

Both meetings went strongly on record in favor of municipalities rigidly enforcing anti-fire regulations.

SECOND FLOOR: FAIRWEATHERS, LIMITED, TORONTO.

Factory Design

The field of commercial and industrial building, says the *Architectural Forum*, is one of particular interest to architects at this period of reconstruction for several reasons: the resumption of building in this type of structure took place sooner and on a larger scale than in any other; the tremendous demand for increased manufacturing space during the war prompted the invention of simple and quickly erected methods of construction; the rapid progress in manufacturing methods to meet modern conditions of business has brought about greater changes in a similar space of time in the planning and equipment of industrial buildings than in any other type of building, and the successful architectural treatment of many recent factories has made it evident that the opportunities for the development of this type of structure have been largely neglected by architects.

The fact that more industrial buildings have not been designed by architects is largely due to the lack of interest the profession has shown in the work. As a consequence this very fertile field of design has been served by the engineer or contracting engineers, the latter virtually contractors, who have built up in many cases large and powerful organizations from the profits of this type of work exclusively. With the growing importance of industrial building and the increasing numbers of people who gain their livelihood from industrial pursuits, the physical character of these buildings, because of their important influence in the community, is a matter of considerable concern.

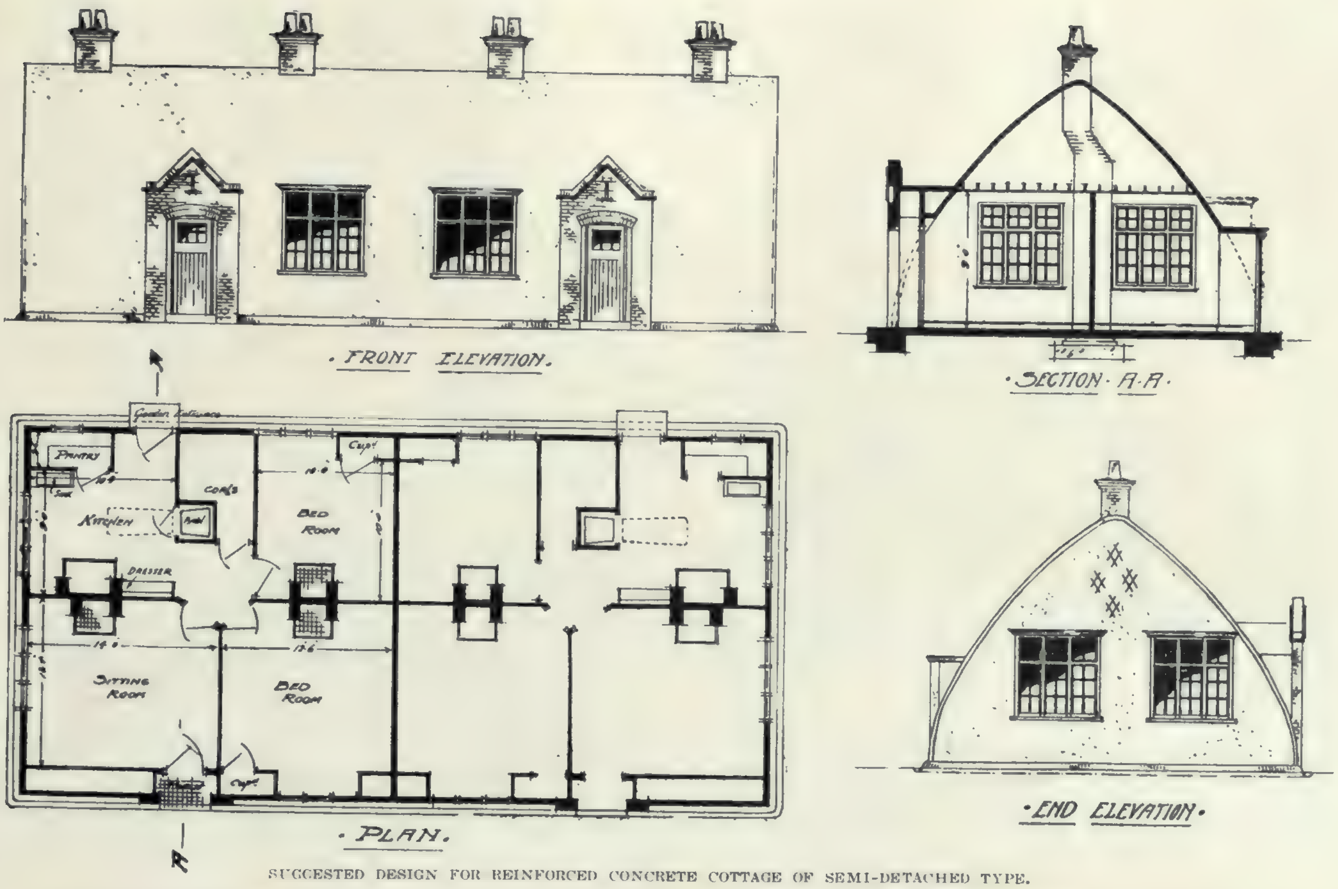
THIRD FLOOR: FAIRWEATHERS, LIMITED, TORONTO.

Industrialism is one of the dominant notes of our modern life, but so far, architecture, which in past ages recorded in permanent form the dominant characteristics of its time and people, has not exerted any marked influence in the buildings housing our modern industries. The opportunity is no less favorable than those of earlier days. It needs only a realization of its possibilities by architects of to-day to develop application of architectural principles that will be a strong bond in uniting the profession and business interests.

Commercial design is not such a simple matter that it can be handled offhand by any architect, and it cannot be thought that it requires no particular skill. It demands a type of service of a most exacting character, and success cannot be counted upon without an energetic study of the problem in all its phases, and an extensive and sympathetic understanding of manufacturing methods.

Industrial buildings entail primarily practical requirements,safe, permanent and economical construction, and the efficient installation of mechanical equipment. They are investments which must show earning capacity to be successful. Appearance is incidental from the manufacturing viewpoint; it is, of course, eminently to be desired, but efficiency of the structure cannot be sacrificed for it, nor can it justify any appreciable addition to the cost of the building.

These conditions present an opportunity for service that the architect is especially capable of rendering. He has the type of mind that can grasp the problems connected with planning a building to fit the operations of manufacturing, and through the possession of a better appreciation of structural forms than the engineer, he can provide interest and beauty to the walls and mass of an industrial structure. There are, however, many features of the engineer's handling of the problem that architects may study with profit, for it is in those respects that corporations have been impressed more favorably by engineers than by architects. Good business methods, speed in construction, directness in securing results, are the contributions engineers and contracting concerns have made to industrial building, and it is only by a combination of these qualities with architectural planning and design that architects can be successful in industrial work.



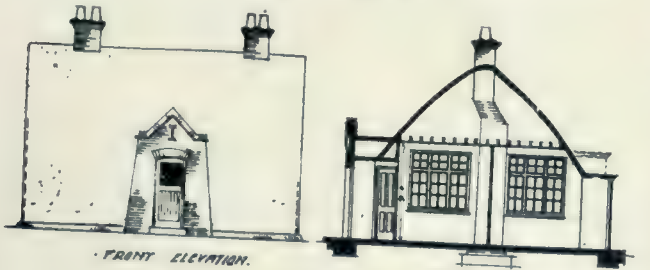
SUGGESTED DESIGN FOR REINFORCED CONCRETE COTTAGE OF SEMI-DETACHED TYPE.

A New Type of Concrete Cottage

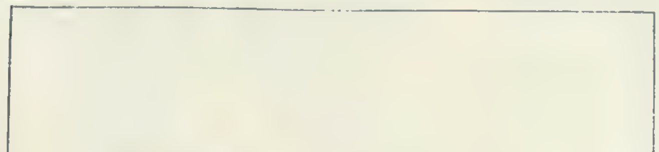
The illustrations on this page show a suggested scheme for a rather unique type of workman's cottage, published recently in the "Concrete and Constructional Engineering." Reinforced concrete is the material to be used with the roof designed to form an unbroken continuation of the front and rear walls. This, it is pointed out, will dispense with the use of timbers in the roof, as well as with the rain pipes and gullies which are otherwise necessary for carrying water from the roof. Economy is also effected in the fact that no slates or tiles are employed for covering the roofs, or lead dressings or other materials used.

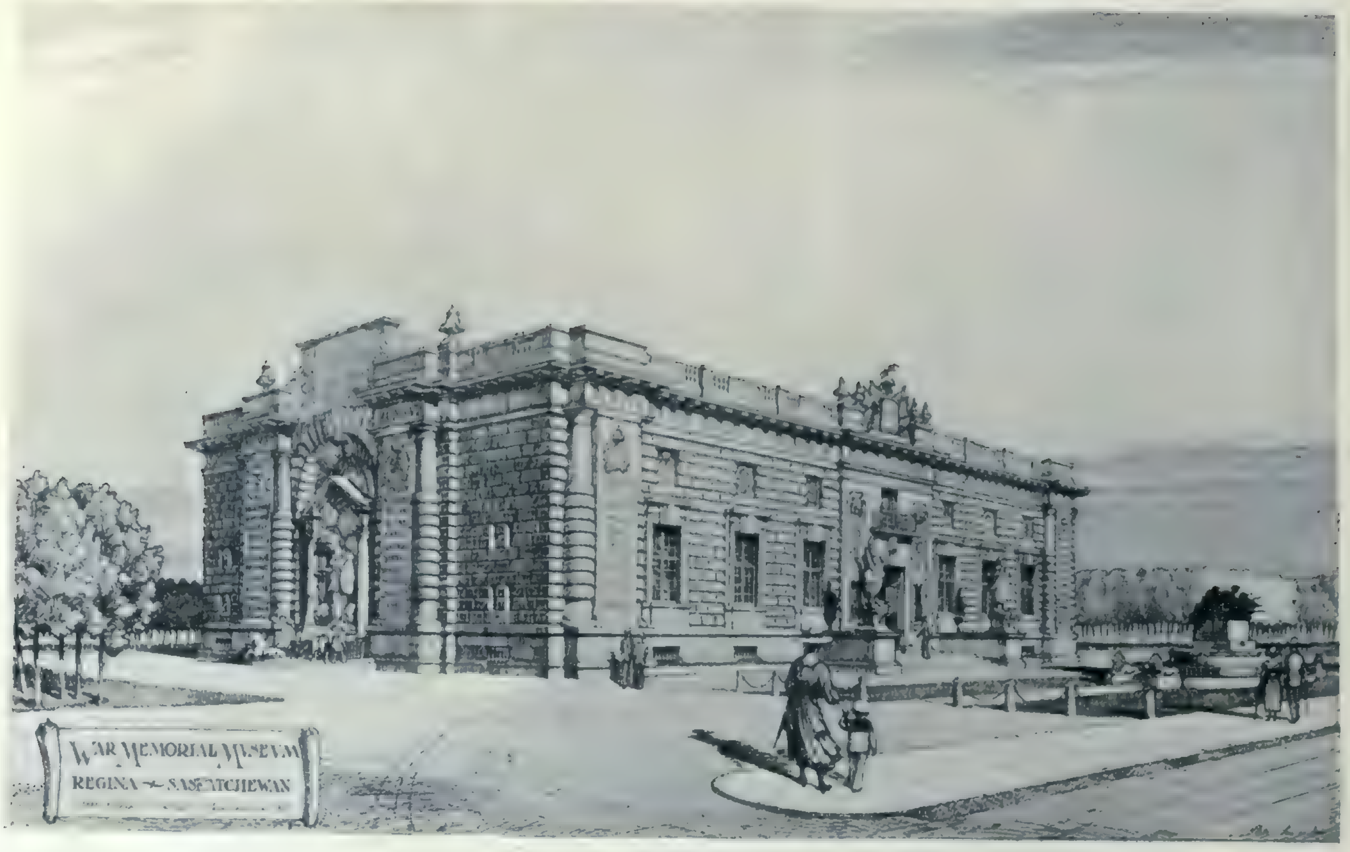
The whole of the exterior will be finished with roughcast cement plastering relieved with brick work to the chimneys and entrance porches, thus lending color to the whole scheme, and giving a pleasing effect when surrounded with trees and foliage.

The interior and ceilings will be plastered, and the various rooms planned and fitted to meet the requirements of an up-to-date labor saving dwelling, the accommodation being indicated in the plan. It is claimed that the cost involved by this method, based on estimates submitted by reliable builders, would be considerable less than the older forms of construction.

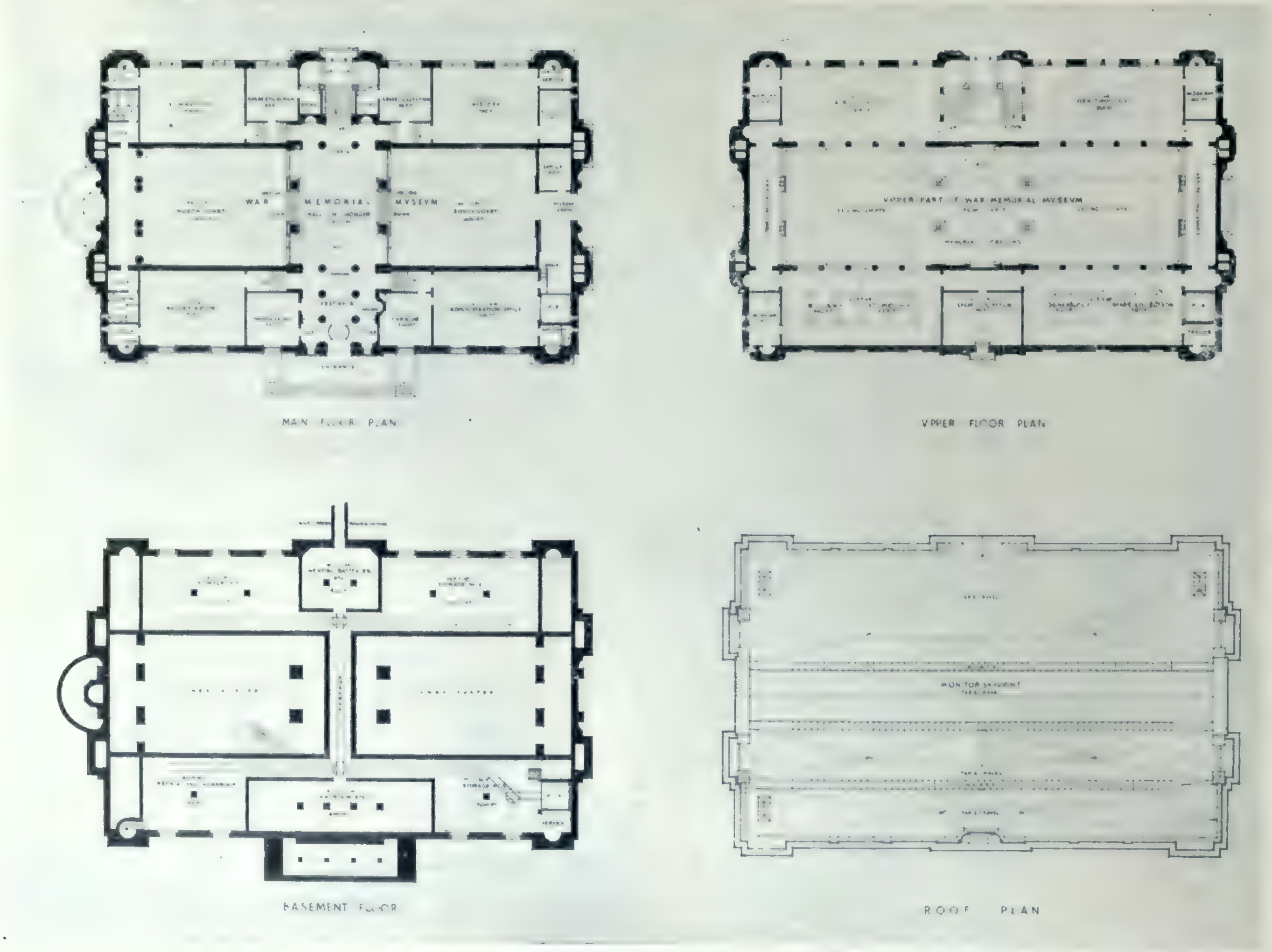


REINFORCED CONCRETE COTTAGE, OF DETACHED TYPE.





PERSPECTIVE.



WINNING DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

NOBBS & HYDE, ARCHITECTS.

War Memorial Museum, Regina, Saskatchewan

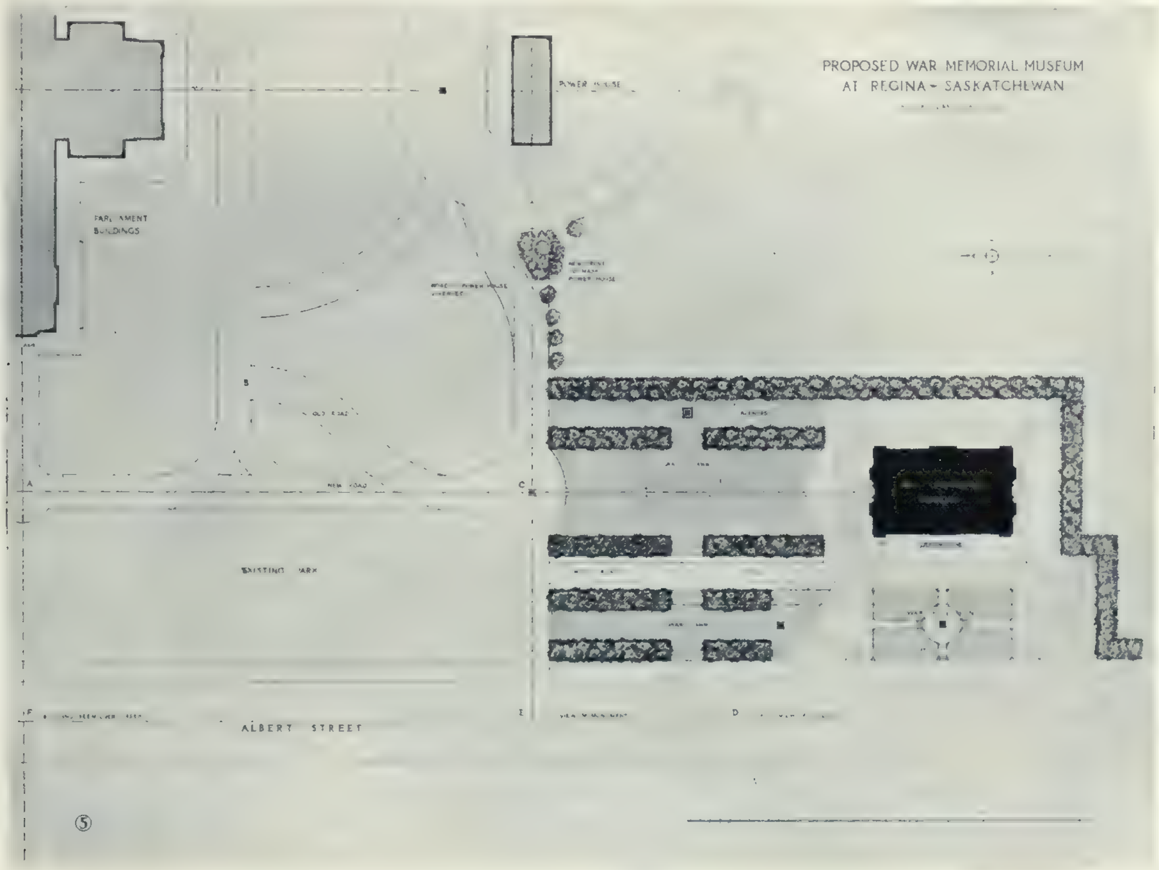
THE Saskatchewan Government is to be congratulated on being the first of the provinces to undertake the erection of a building to commemorate Canada's part in the war. An examination of the various drawings submitted shows several schemes which could be suitably adopted for the purpose mentioned. The choice, however, of Messrs. Nobbs and Hyde's design is one which will undoubtedly meet with general approval. The conditions of the programme, which were published in full in the May, 1919, issue of CONSTRUCTION, were infinitely fair and ideal in every way and in full accord with recognized ethical standards. The winning design provides for an excellently planned building, and together with the other schemes illustrated, show the individual conception of the contestants for a building which with, perhaps, certain modifications will likely be duplicated in the other provinces.

The competition was limited to eight designers, and each of the unsuccessful contestants will receive the sum of one thousand dollars ($1,000) as a compensation for their time and labor, which, considering the amount of work and study given to each individual scheme, represents a growing appreciation of architectural services and involves a principle which should become more definitely established. The assessors were Mr. Septimus Warwick, F.R.I.B.A., Montreal, and Ramsay Traquair, Professor of Architecture, McGill University, Montreal. A description of the various schemes submitted is set forth herewith.

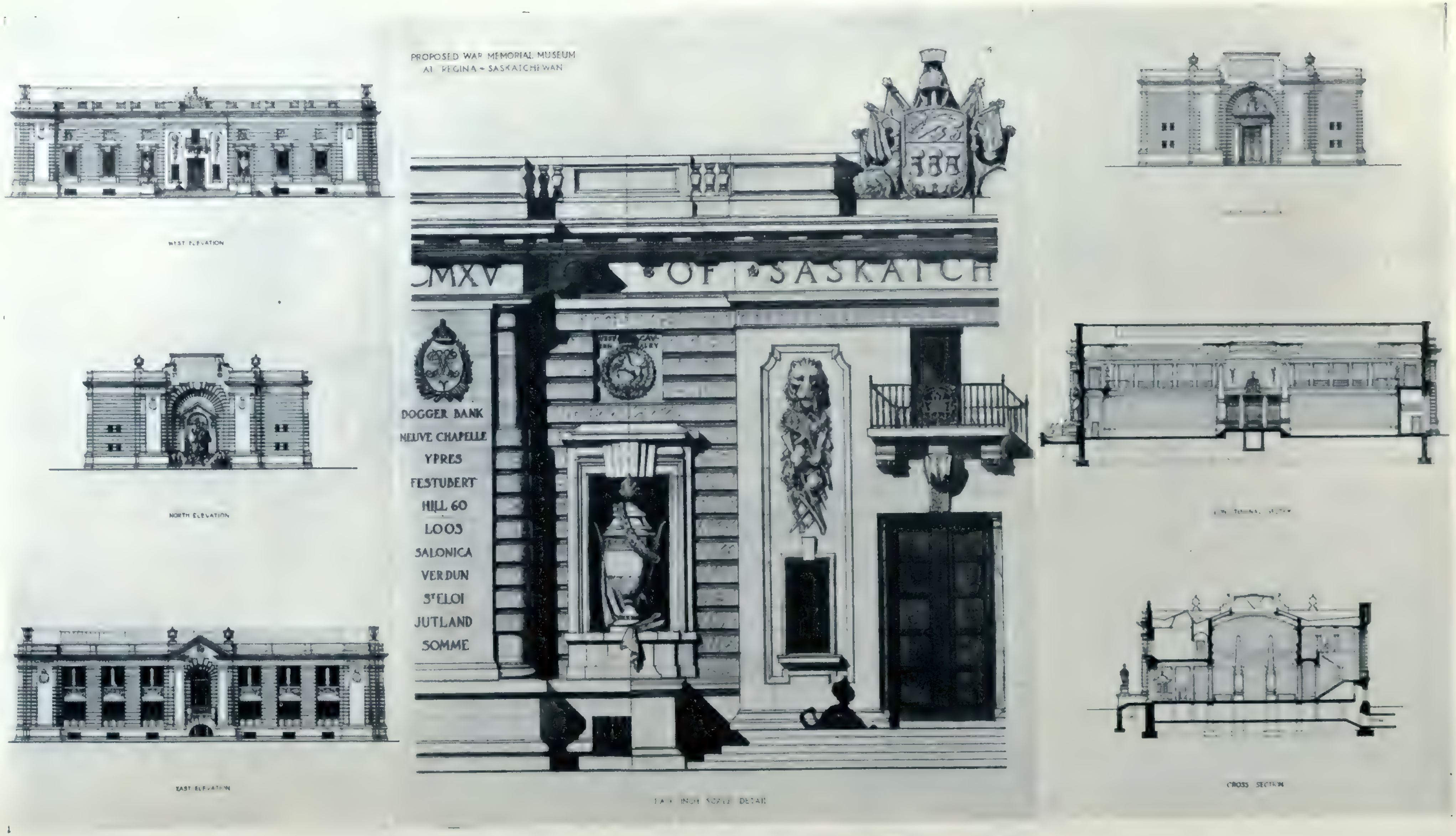
WINNING DESIGN : NOBBS AND HYDE.

The Block Plan illustrates the proposal for dealing with the site generally. It will be noted that an observer at the point A to the west of the Parliament Building would perceive to the south of him a building of importance with broad avenues leading towards it. The conversion of the winding road, ABC into the straight road AC is recommended the better to relate the new work to the existing scheme. On reaching the point C one passes from the semi-naturalistic surroundings of the Parliament Buildings to more formal avenues and wide lawns. (The use of Russian poplar and Asiatic willow is intended.) From C onwards the view resolves into a monumental fountain backed by a massive wall,—Britannia at War is the theme suggested,—with glimpses on the right of the sculpture group in front of the entrance to the Museum.

By a slight deviation of the road running eastward to the Power House, place can be found for a group of trees masking that building.



BLOCK PLAN: WINNING DESIGN.



WINNING DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

NOBBS & HYDE, ARCHITECTS.

Between the Museum and Albert Street the avenues are discontinued and a formal balustraded lawn is proposed as a setting for the monumental group of sculpture above referred to. The intention is that the building, although visible from a distance, should not reveal itself *in its entirety* to one approaching from the city by Albert Street till the point D is reached.

The treatment, which is generally homogeneous on all sides, is dominated by the requirements of the north elevation, with which a fountain is incorporated, and the west elevation, designed as a background to the proposed memorial sculpture group and containing the main entrance.

Pylons inscribed with the battles of the various campaigns and the frieze containing the dedication render the intention of the building in words. The panels over the windows containing the badges of the Saskatchewan units (5th Western Cavalry, 28th Battalion, etc., etc.', will have meaning for those who bore these emblems. The draped and wreathed urns flanking the entrance are intended as a hint of the sentiment attaching to the Hall of Honor within, with its long tale of the Province's losses.

The design is a frank attempt by the omission of intervening walls where possible to connect the various elements, as far as may be, under one ceiling, coterminuous with the area of the building. This solution combines effects of space with very great structural economy.

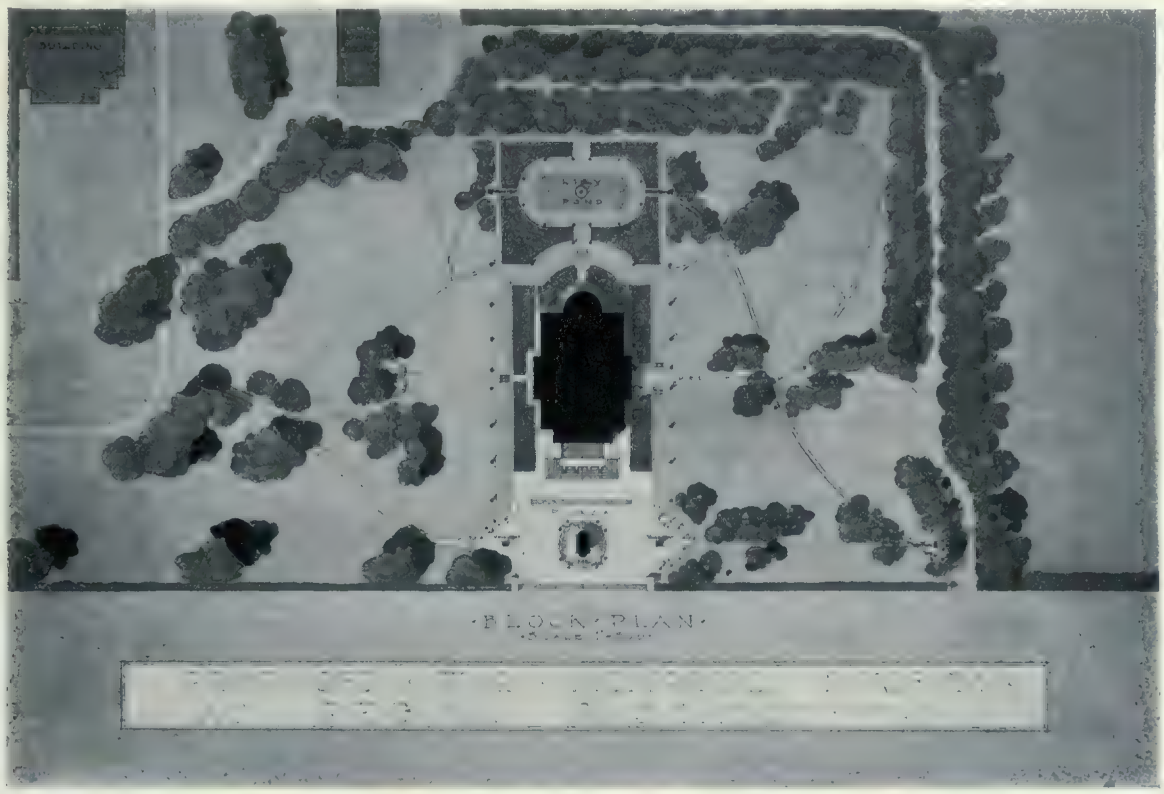
The Hall of Honor thus merges at the one end with the entrance and at the other with the main staircase, giving a vista of over eighty feet, while it is flanked by the open courts of the War Relics Museum.

The War Museum thus contains the Hall of Honor within itself, a room of monumental proportions, 140 feet long, resulting. Wall piers and obelisks and a slight difference in floor levels serve as demarcations between the parts.

Wrought iron screens within the Hall of Honor enable the building to be closed off when required into three sections:

(A) Administrative and Records.
(B) War Museum.
(C) Provincial Museum.

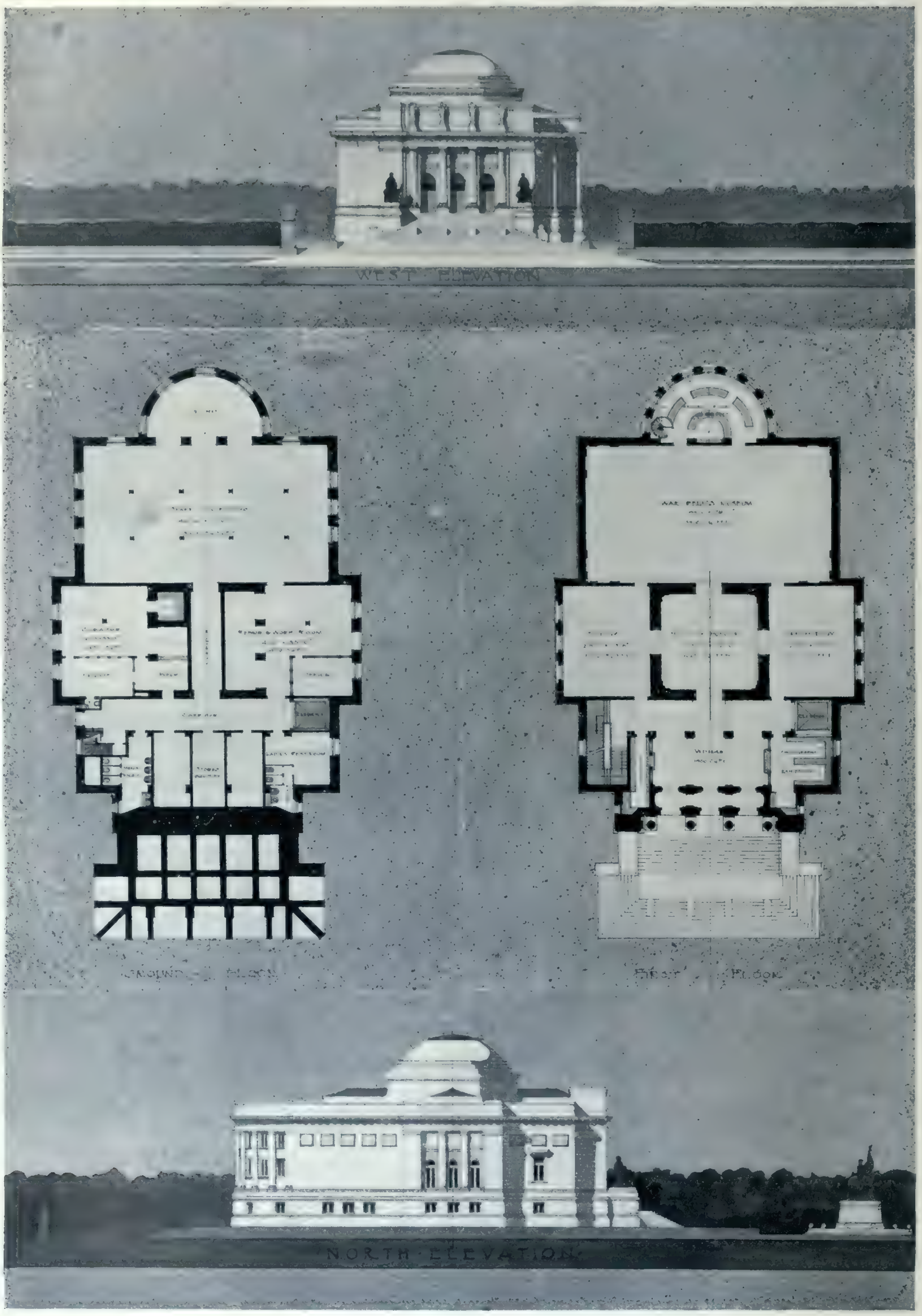
On entering the Curator's Offices and the Board Room are found flanking the vestibule; beyond the first screen is the War Museum and beyond the second the Provincial Museum containing on the lower floor the Department of Ethnology and History, and on the upper the whole Natural History collections in the suite of galleries open to the upper part of the War Museum.



COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.
J. H. G. RUSSELL, ARCHITECT.

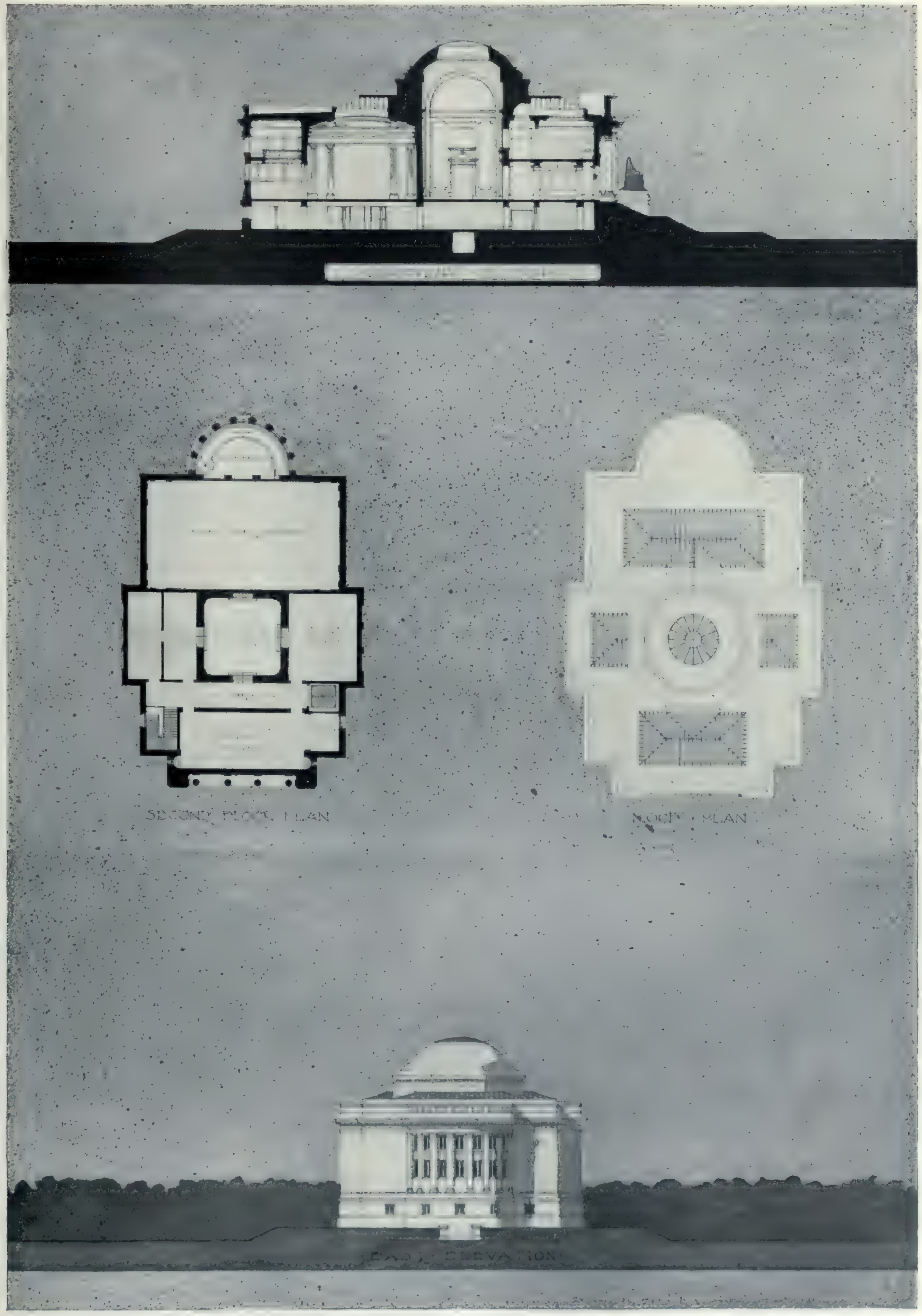
Adjoining the service entrance and the administrative offices is the freight elevator connecting the basement store and work room with the War Museum and the Provincial Museum galleries.

The main internal architectural features are the tablets for the honor rolls on the piers and obelisks surrounding the Hall of Honor. The lower walls of the War Museum Courts provide



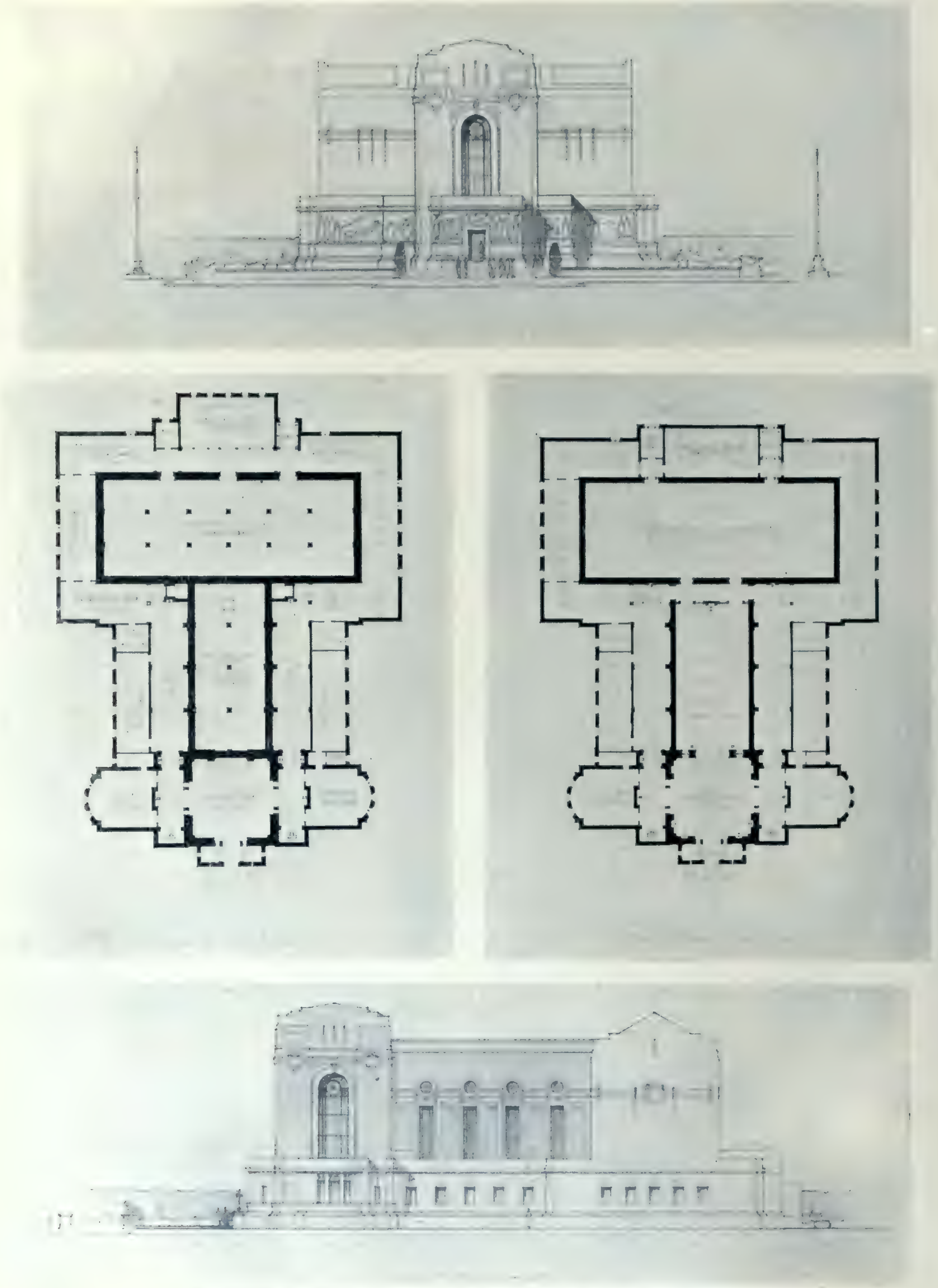
COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

J. H. G. RUSSELL, ARCHITECT.



COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

J. H. G. RUSSELL, ARCHITECT.



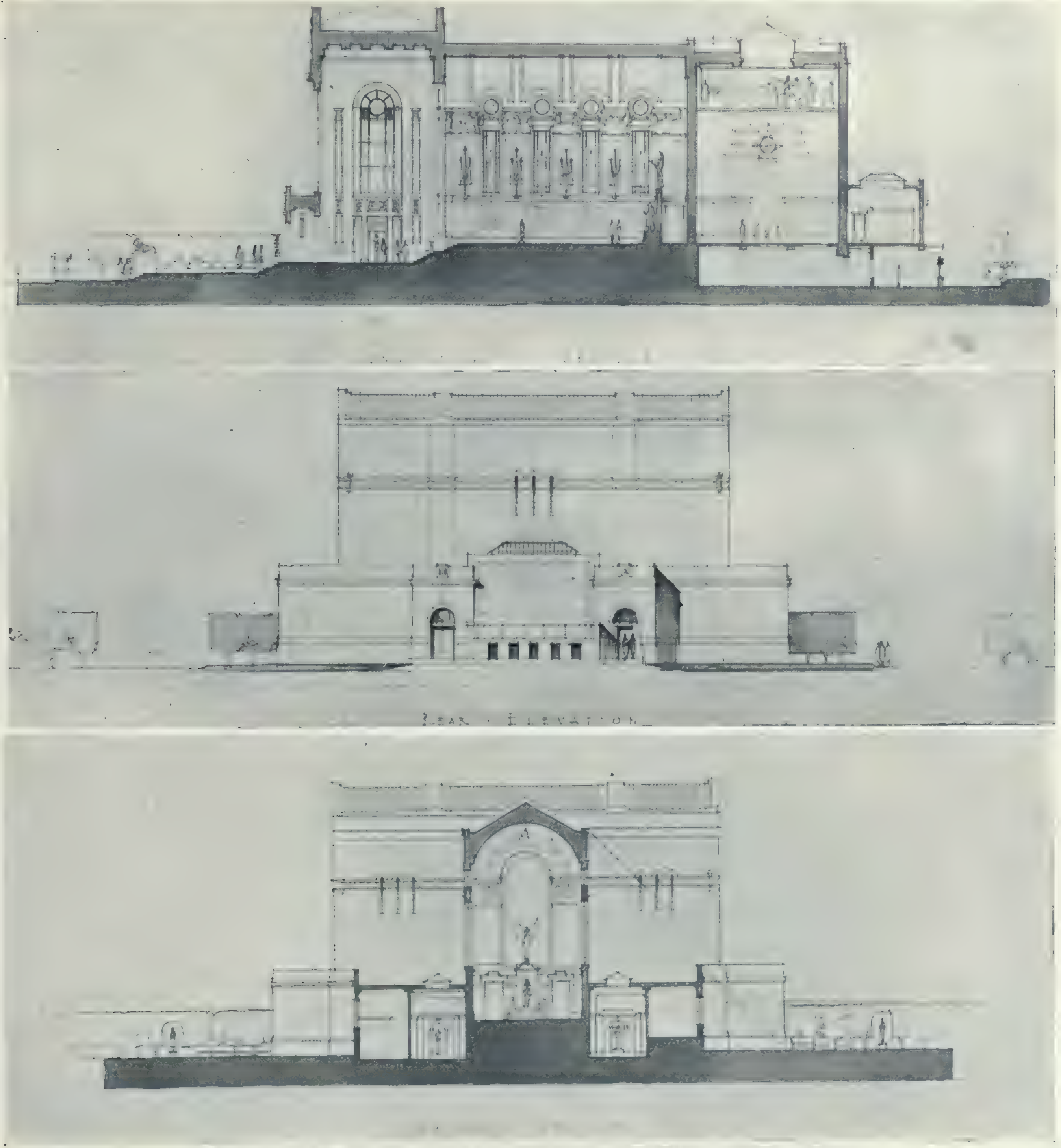
COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

BROWN & VALLANCE, ARCHITECTS.

places for large decorative paintings:—panoramic views of such historic battle grounds as (1) Vimy Ridge, (2) Ypres, (3) The Somme Valley, and (4) Cambrai, are suggested. At the ends of the hall two large lunettes above the connecting galleries would be suitable for decorative paintings symbolic of the spiritual aspects of the conflict, while below at the ends a good setting is provided for scenes of transport and war life. As top light is largely depended on, the ceilings are treated with simplicity.

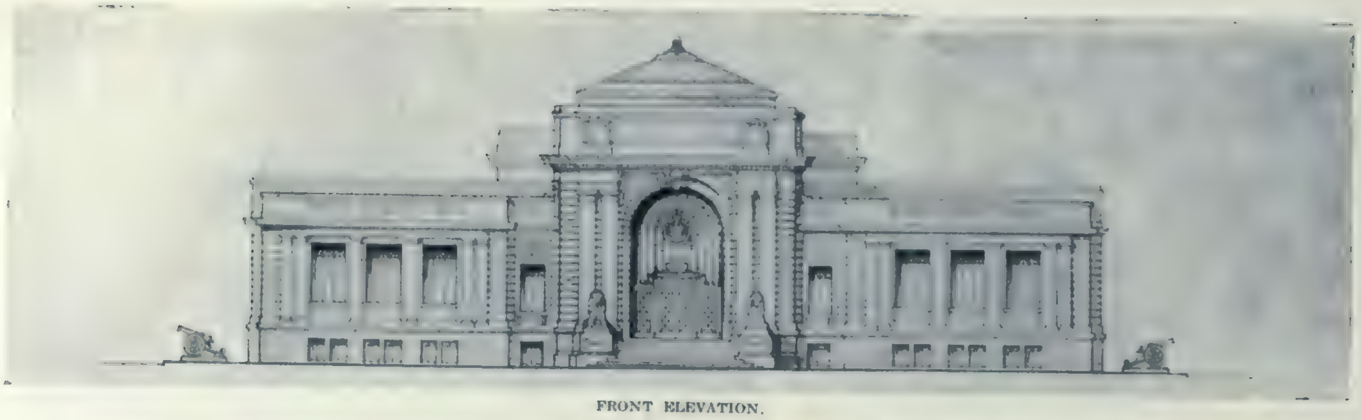
The required floor areas are provided as follows:

Accommodation	Story	Area Sq. Ft.	Totals Sq. Ft.
(A) Hall of Honor	Ground floor	1500	
Vestibule and Coat Rooms	Ground floor	375	
Photograph Room		225	
Adjoining Connections (Exclusive of Main Stair)		400	
Hall of Honor, etc			2500
(B) North Court (1900)	Ground floor		
South Court (1600)	Ground floor	3500	
Record Room	Main floor	700	
War Relics Museum			4200
(C) Zoology	First floor	1050	
Ornithology	First floor	1050	
Botany	First floor	520	
Mineralogy	First floor	520	
Entomology	First floor	520	
Ethnology	Main floor	700	
History (with Research Room)	Main floor	800	
Provincial Museum			5160
(D) Spare Collection No. 1	Main floor	225	

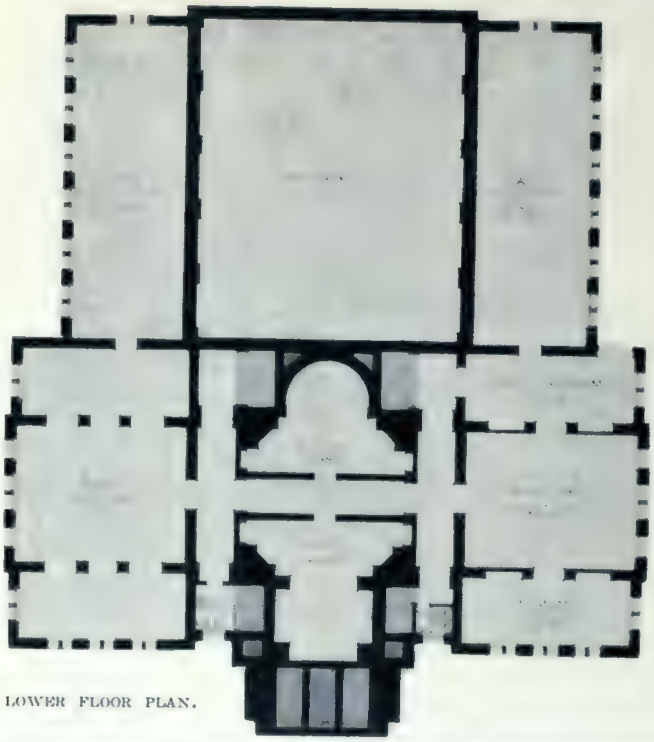


COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

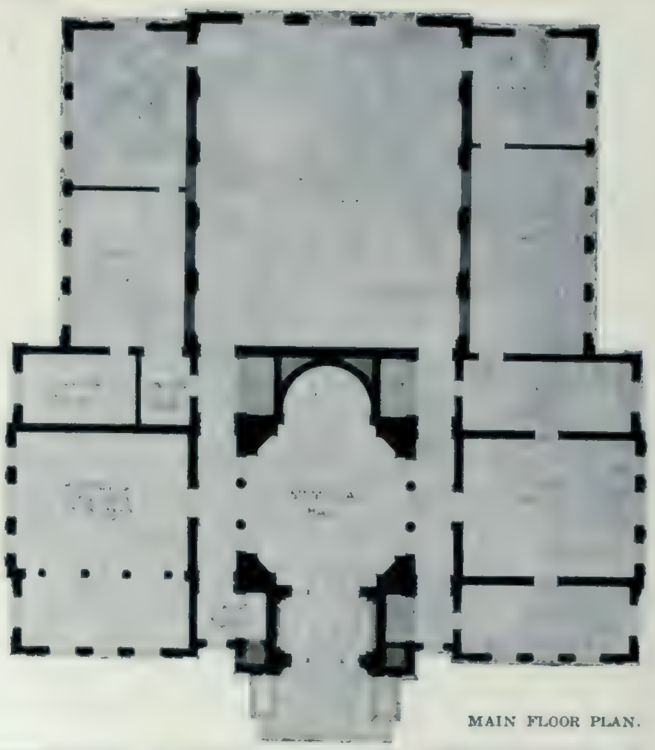
BROWN & VALLANCE, ARCHITECTS.



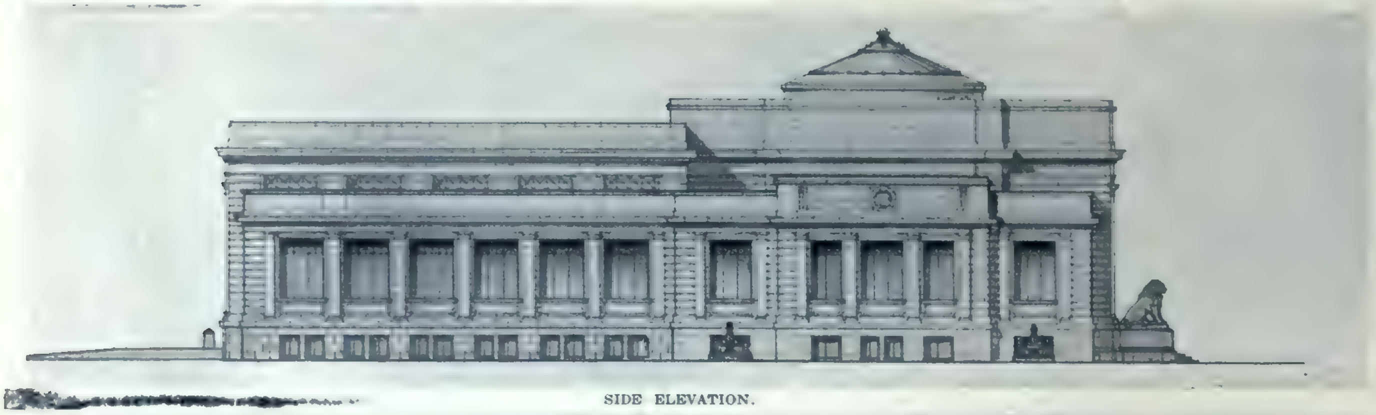
FRONT ELEVATION.



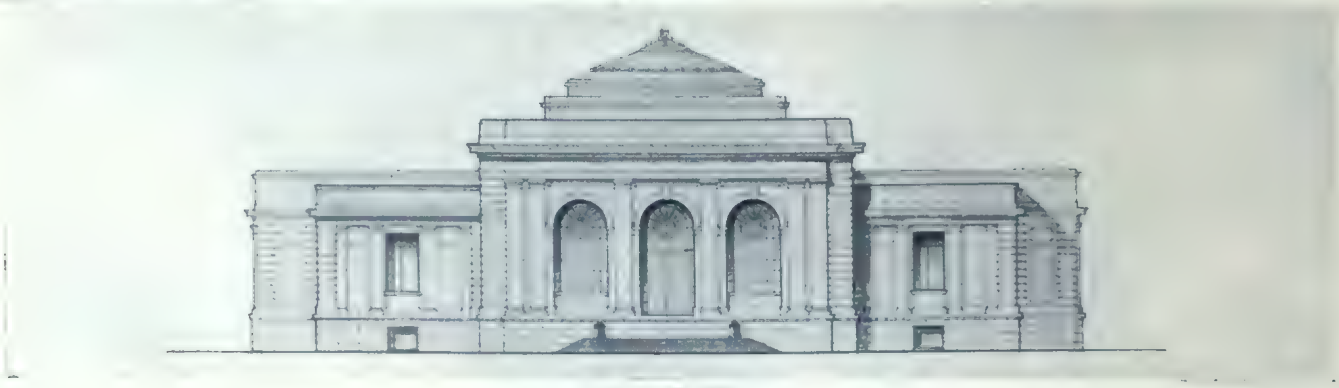
LOWER FLOOR PLAN.



MAIN FLOOR PLAN.



SIDE ELEVATION.

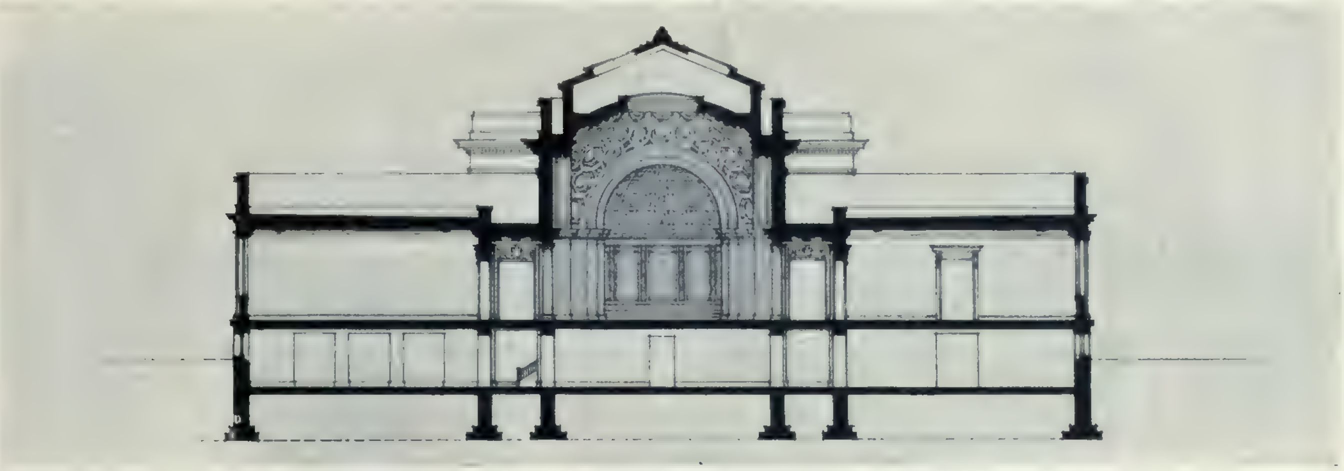


REAR ELEVATION.

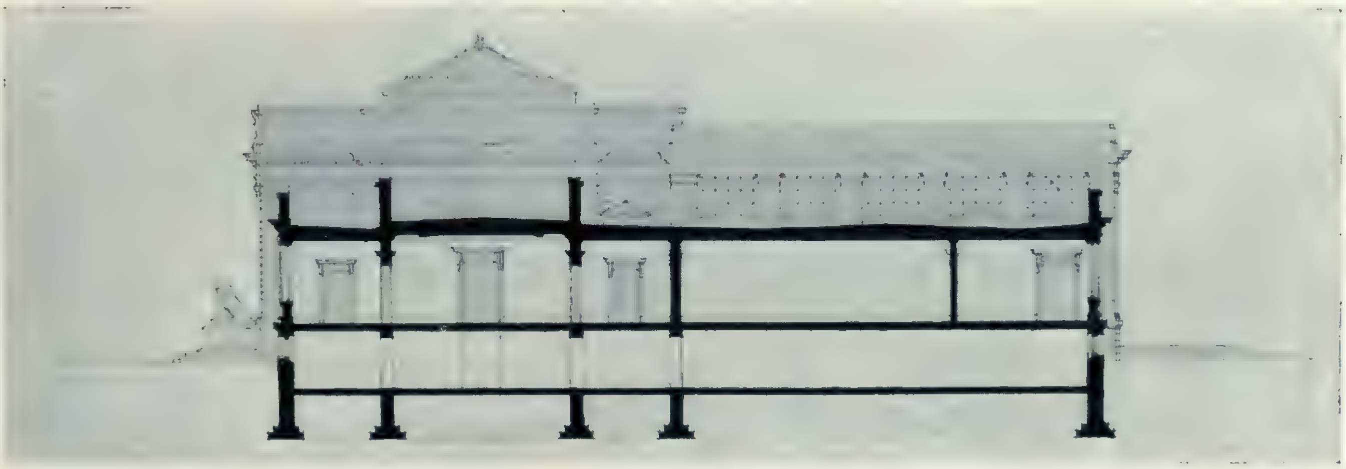
COMPETITIVE DESIGN. WAR MEMORIAL MUSEUM, REGINA, SASK.

E. & W. S. MAXWELL, ARCHITECTS.

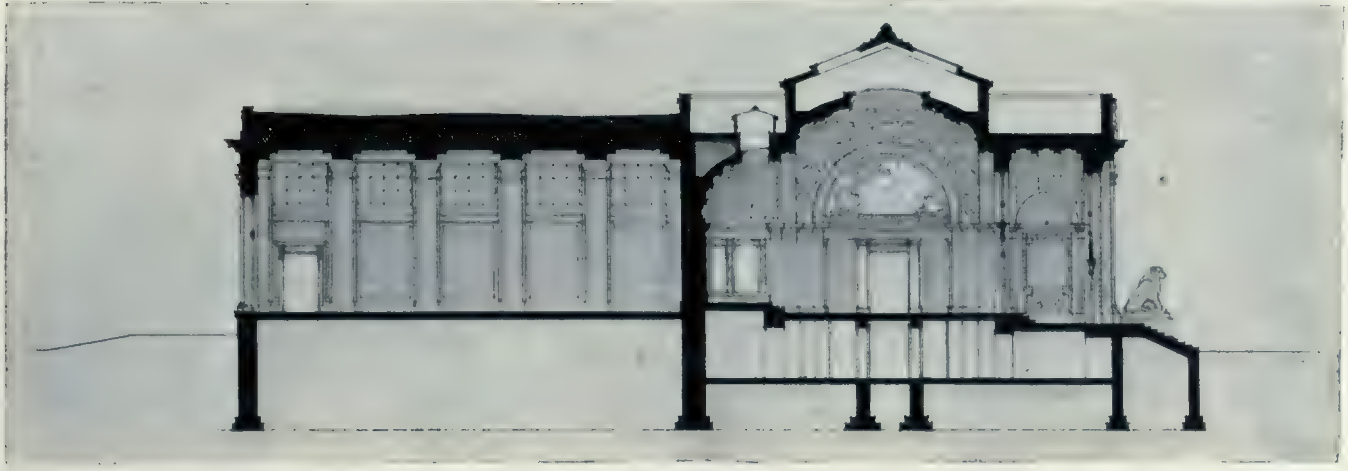
Accommodation	Story	Area Sq. Ft.	Totals Sq. Ft.
Spare Collection No. 2	Main floor	225	
Spare Collection No. 3	First floor	350	
Spare Collection No. 4	First floor	500	
Stores No. 1	Basement	1000	
Stores No. 2	Basement	1000	
Stores No. 3	Basement	700	
Spare Collections and Stores			4000



CROSS SECTION.



LONGITUDINAL SECTION.



LONGITUDINAL SECTION.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

E. & W. S. MAXWELL, ARCHITECTS.

Accommodation	Story	Area Sq. Ft.	Totals Sq. Ft.
(E) Repair Room	Basement	700	
3 Workrooms adjoining Museum Galleries		300	
Repair and Workrooms			1000
(F) Private Room	Main floor	200	
General Office	Main floor	200	
Receiving Room	Main floor	200	
Curator's Office			1000

Accommodation	Story	Area Sq. Ft.	Totals Sq. Ft.
(G) Lavatories, etc.	Ground floor	300	
Fan Rooms, Heating, etc.	Basement	1000	
Service etc.			1300

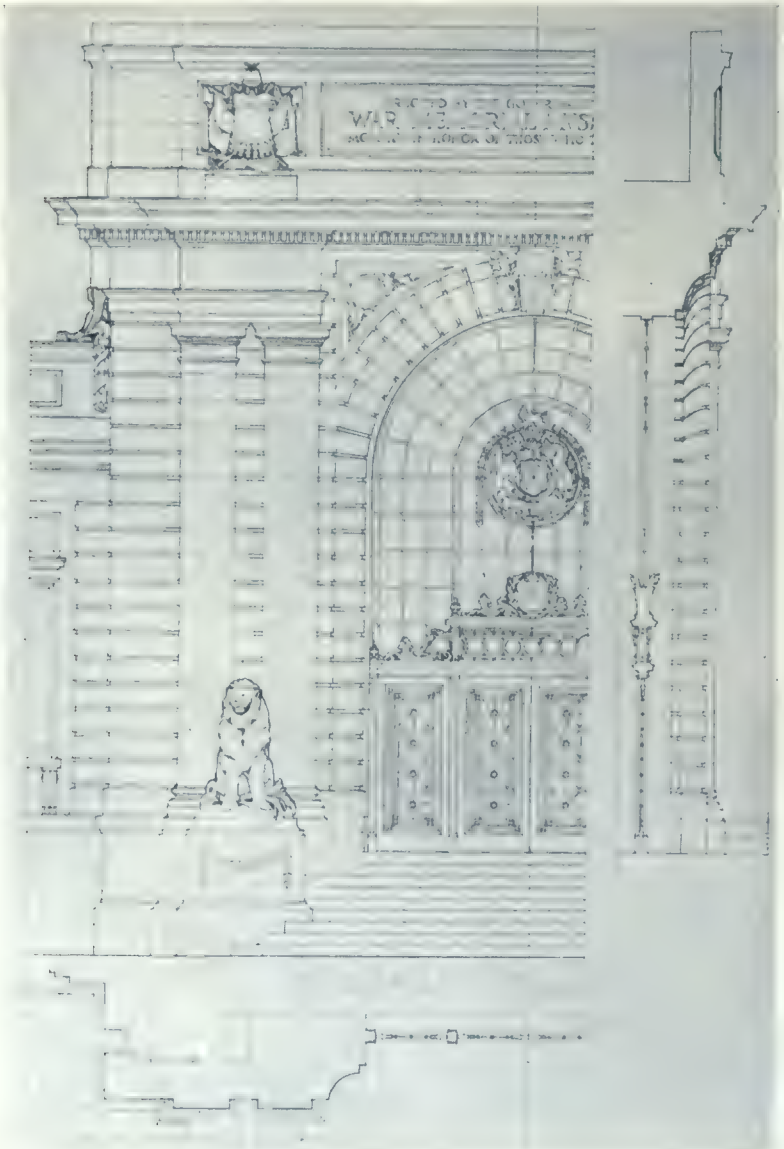
The design is for a structure of precisely 500,000 cubic feet above the grade and is itemized as follow, it being estimated that the building can be executed with very adequate embellishments for the figure proposed—$400,000.

	Cubic Ft.	Rate	Cost
I. Hall of Honor, Entrance, Staircase and Ends of War Museum Hall with connecting galleries	160,000	$1.20	$192,000

	Cubic Ft.	Rate	Cost
II. Administration and Provincial Museum Galleries and Record Room	190,000	.60	114.000
III. War Relics Museum (Courts only, walls included in items I and II)	132,000	.25	33,000
IV. Basement (from below ceiling only)	80,000	.30	24,000
V. Foundation Work	20,000	.75	15.000
VI. Fountain to N. and steps at entrance	5,000	4.00	20,000
			$398,000

COMPETITIVE DESIGN : BROWN AND VALLANCE.

In the study of the problem, the promoter's definite instructions have been kept in mind, that the importance and interest must centre in the Hall of Honor and the War Relics Museum. The Provincial Museum, although given a secondary place, is conveniently arranged, with complete circulation independant of the memorial parts of the building.



DETAIL.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.
E. & W. S. MAXWELL, ARCHITECTS.

The style of the building being left to the discretion of the competitors, no attempt has been made to follow the lines of the Parliament Buildings, but it has been kept in mind that any buildign within the grounds must harmonize with that already there.

According to the conditions of the competition, the area of the several rooms were optional, the exact area and division being left to the discretion of the designer. With these instructions in mind advantage has been taken of the conditions and the vestibule and Hall of Honor increased.

Careful computation has been made of the several parts of the building, and from the floor levels to the roof levels the cube is 654,000 feet.

The estimated cost of the building, including ventilation, plumbing, carving, etc., is $408,161.

COMPETITIVE DESIGN : J. H. G. RUSSELL.

As shown by the block plan, the building is to be located west and south of the Provincial Parliament Buildings, and placed on a terrace about 24 feet larger than the outside dimensions of the structure, and raised about four feet above the level of the street grade. The main longtitudinal axis runs due east and west, which presents the greatest length to the principal approach from the city, provision being made on Albert Street for a wide central approach and a feature statuary group.

The building is three stories high with the exterior in Doric design to harmonize with the existing Parliament Buildings, the treatment being simple with little ornament, resulting in a dignified scheme emblematic of the purpose for which the building is intended. The plan is rectangular and symmetrical, perimtting of simple construction. The basement or more properly the ground floor, is 12 feet in the clear, and the first and second stories each 16 feet in the clear. There is no basement in the ordinary meaning of the term, except a tunnel through the central portion for plumbing and heating pipes, and ventilating ducts, with a small space below the floor for branch lines.

On the ground floor, which is at a level about six inches above the grade, are the Curator's general offices with private office, toilet and vault; the repair room and workroom with a large entrance on the side so trucks may be driven in to unload large pieces; the spare collections and storage rooms, men's and women's toilet rooms, and stairs and elevators to the upper floors and down to the tunnel. There is also an entrance from the grade to provide convenient access to the offices.

The first floor is reached by a wide and accessible flight of steps from which there are three imposing entrances to the main vestibule, opening from which there are the cloak room and the photograph room conveniently located. Opening from the main vestibule is the Hall of Honor, carrying up through the two stories to the dome ceiling. The War Relics Museum which opens from the Hall of Honor, is also carried up through the two stories. These two rooms are the main feature of the plan and have been treated in a simple but dignified manner, all unnecessary ornament has been eliminated in order to render them more adaptable to the purpose for which they are to be used. The record room opens off the rear of the War Relics Museum, and at either side of the Hall of Honor are the zoology and ornithology departments. The stairs are conveniently located to the left of the entrance, it not being necessary to make a memorial feature of them.

On the second floor are the departments for botany, ethnology and mineralogy at either side of the upper portion of the Hall of Honor, and across the front of the building is the departments of ethnology and history.

The intention is to make the structure fireproof throughout, with interior construction of steel and reinforced concrete columns, beams, floors, ceilings, roofs, etc. The dome would be of light steel and concrete construction with a copper covered roof, and the exterior walls faced with Tyndall stone. The finished floors in workroom, spare collections and stores on the ground floor, would be of cement, and in all corridors and toilet rooms on this and the second floor of terrazzo. The main entrance, vestibule and Hall of Honor would have marble marble floors, and all other rooms, floors of oak. Where marble and terrazzo floors occur there would be a marble base, and wood base for wood floors.

All windows to have marble stools and plaster jambs, the openings around the main entrance and Roll of Honor to have marble jambs. Wood trim is confined to openings between the main exhibition rooms to which there are no doors, and to the trim and doors to minor rooms. Stairs to have cast iron strings and raisers with marble treads and platforms. Doors to elevator would be of steel, finished to match adjoining trim.

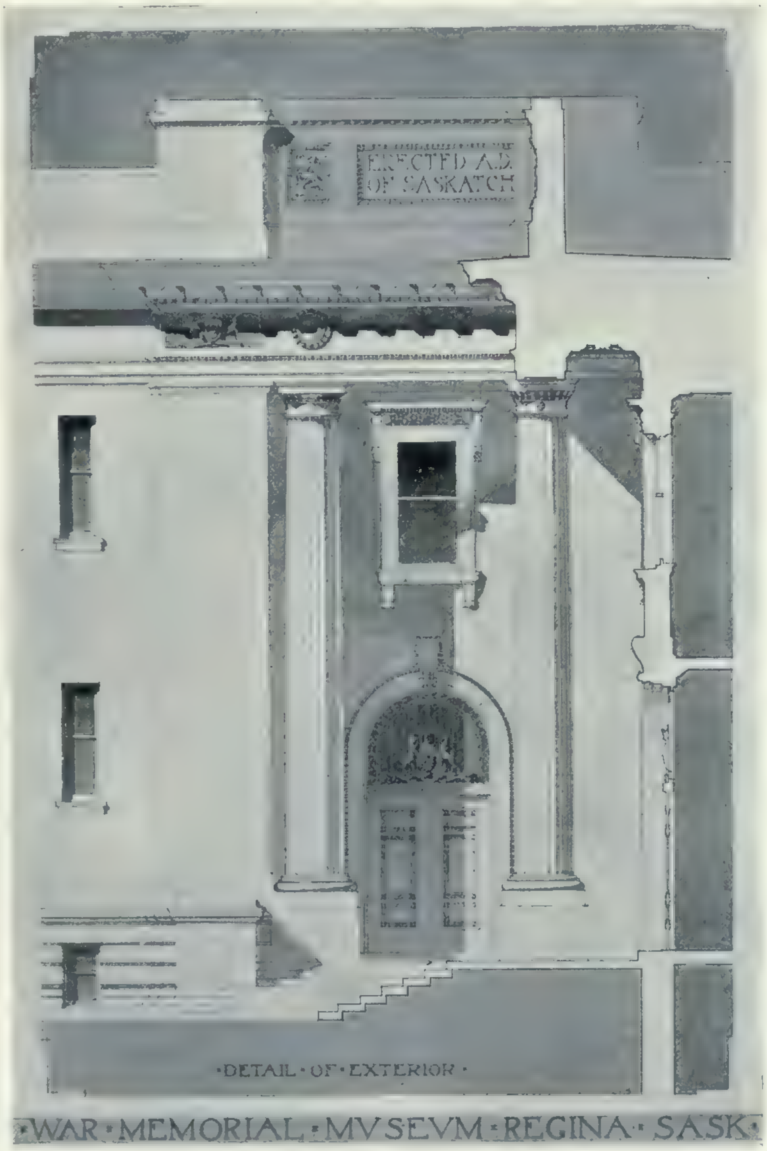
The area of the building, exclusive of the steps, is 11,900 feet, and the height of 48 feet, on which the cubical contents are figured, is from one foot below ground floor to the flat of the roof. The cubage and cost per cubic foot is estimated as follows:

		Sq. ft.
Front Porch	13 x 62 ft. or	806
Vestibule Sec.	29 x 84 ft. or	2436
Centre Sec.	41 x 99 ft. or	4059
Rear Sec.	45 x 84 ft. or	3780
½ Circle Ext.	44 Diam. or	760
½Circle Ext.	44 x 1½ ft. or	66

11,907 x 48 ft. or 571,536 c. ft. x 75c $428,652.00

Dome ....54 ft. diam. or 2290 ft. x 14 ft. is 32060
Dome Roof ......48 ft. diam. or 1809 ft. x 8 ft. is 14472

46542 c. ft. x 50c is $23,266.00

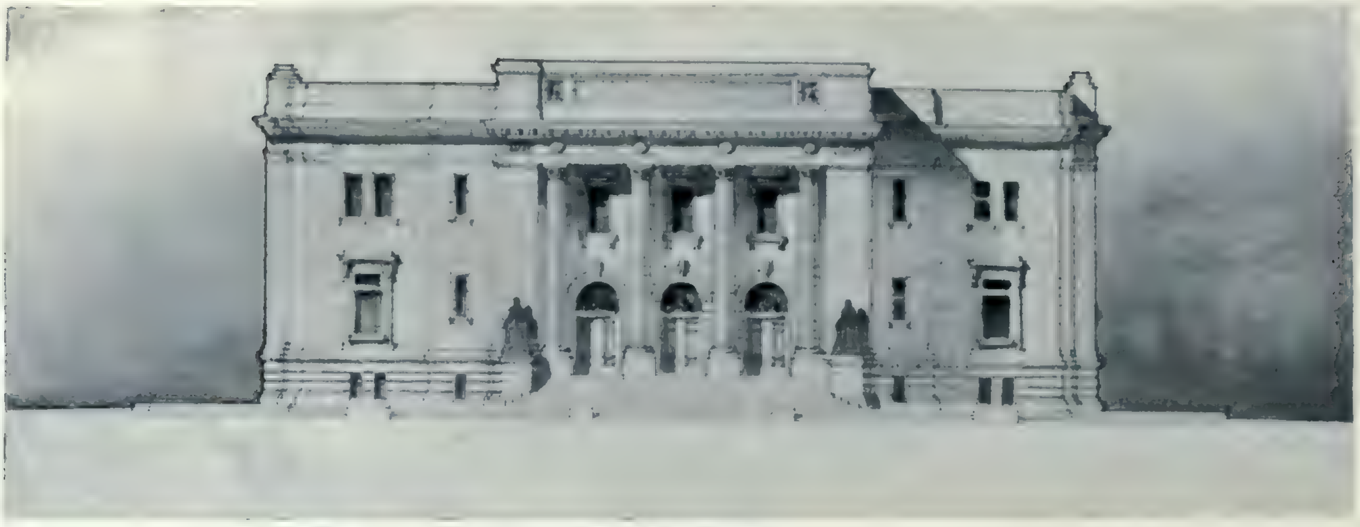


DETAIL OF ENTRANCE.
COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.
STOREY AND VAN EGMOND, ARCHITECTS.

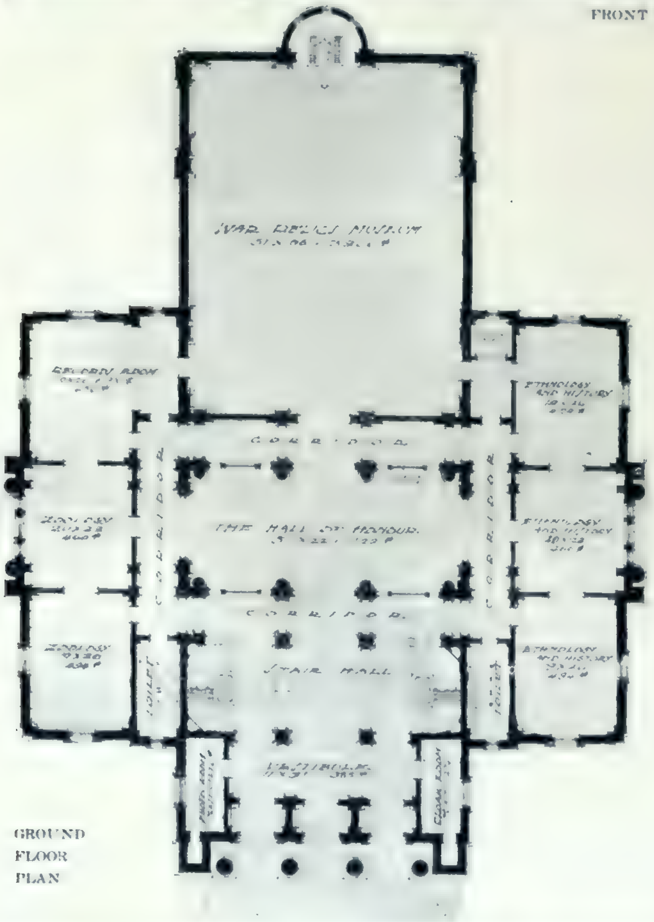
Tunnel	12 ft. x 99 ft. or 1188 x 10 ft. is 11880 c. ft. x 48c..	5,702.00
Main Steps	.... 1972 x 7 ft. is 13804 c. ft. x 50c..	6,902.00
		$464,522.00

COMPETITIVE DESIGN : E. AND W. S. MAXWELL.

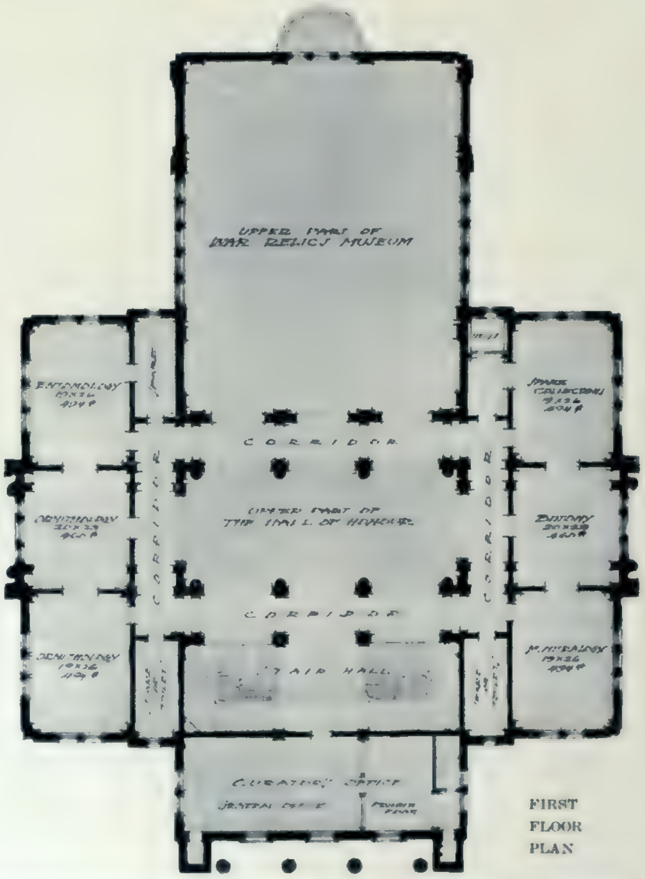
The Hall of Honor partakes of the nature of a Pantheon, the top lighting recalling the one at Rome, which is acknowledged one of the most admirably lighted interiors in the world. The semi-circular apse is designed to receive the tablets honoring those who participated in the war. It was considered that the Hall of Honor should



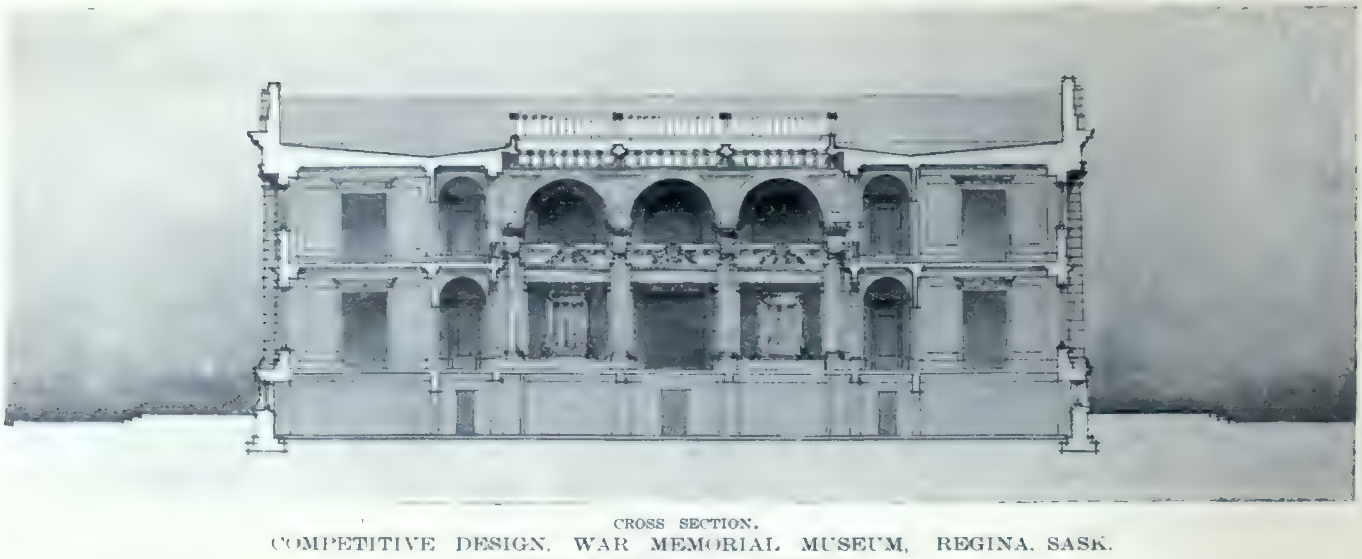
FRONT ELEVATION.



GROUND FLOOR PLAN



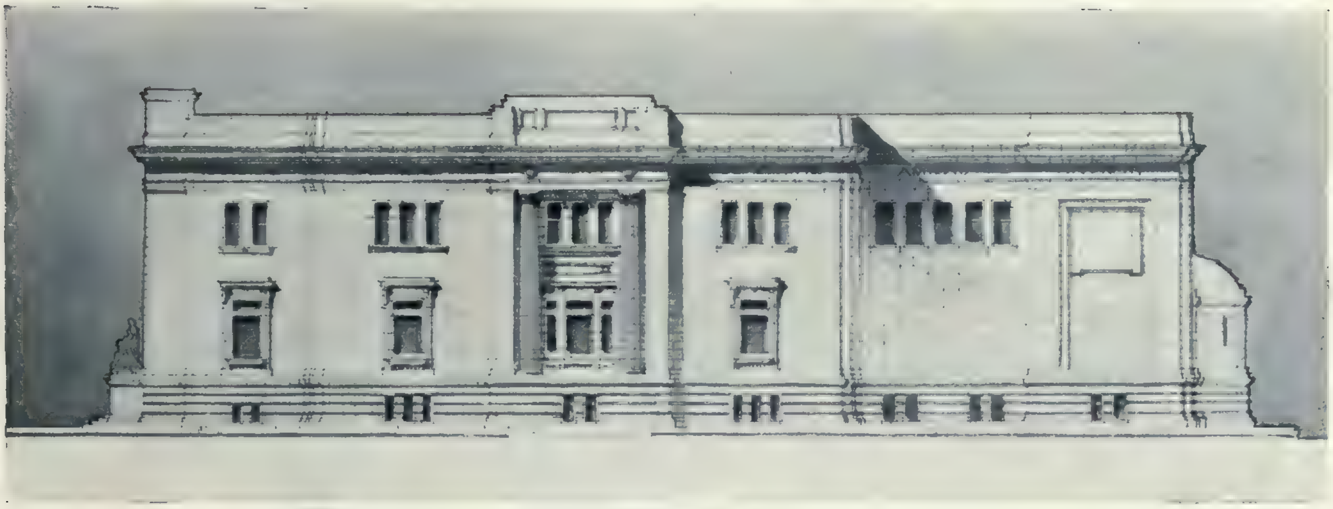
FIRST FLOOR PLAN



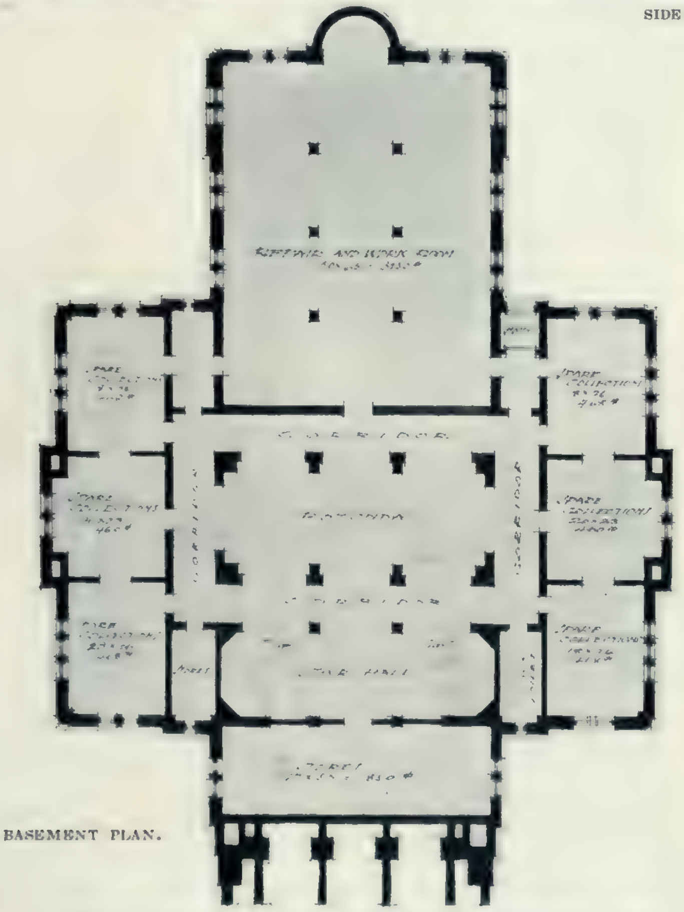
CROSS SECTION.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

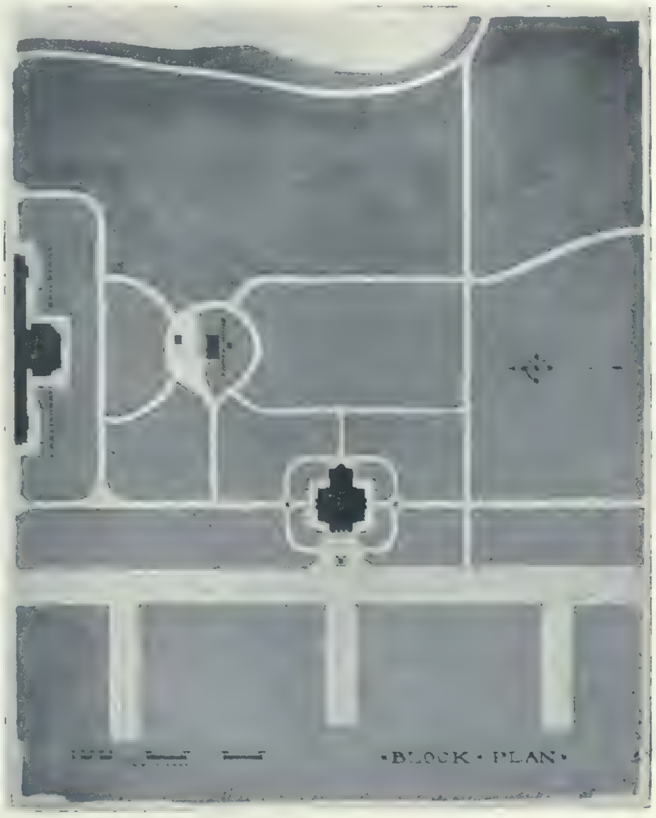
STOREY & VAN EGMOND, ARCHITECTS.



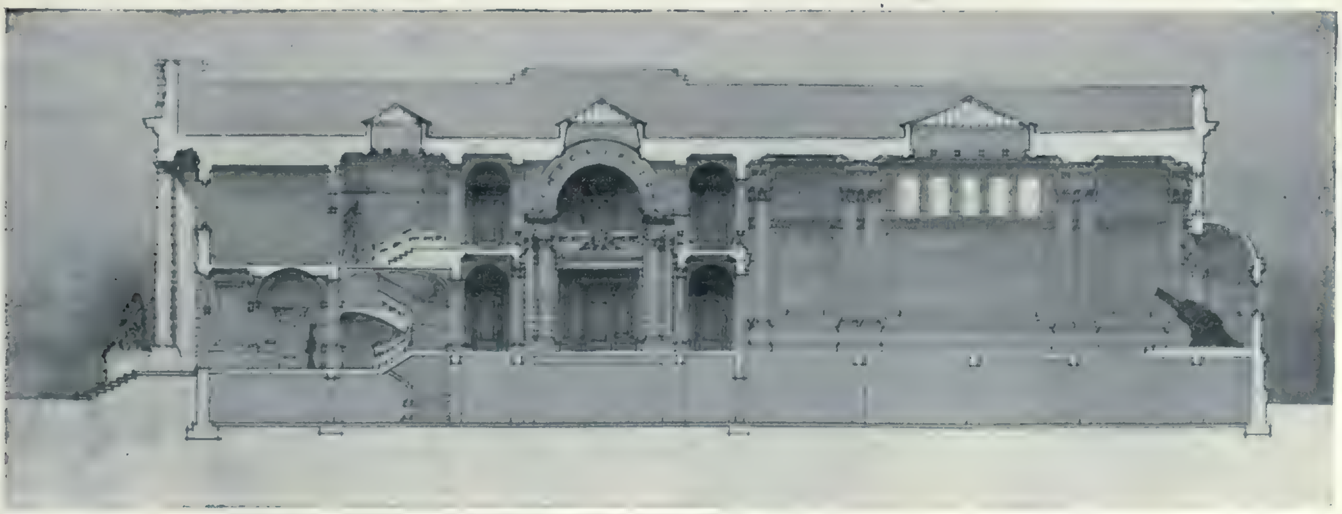
SIDE ELEVATION.



BASEMENT PLAN.



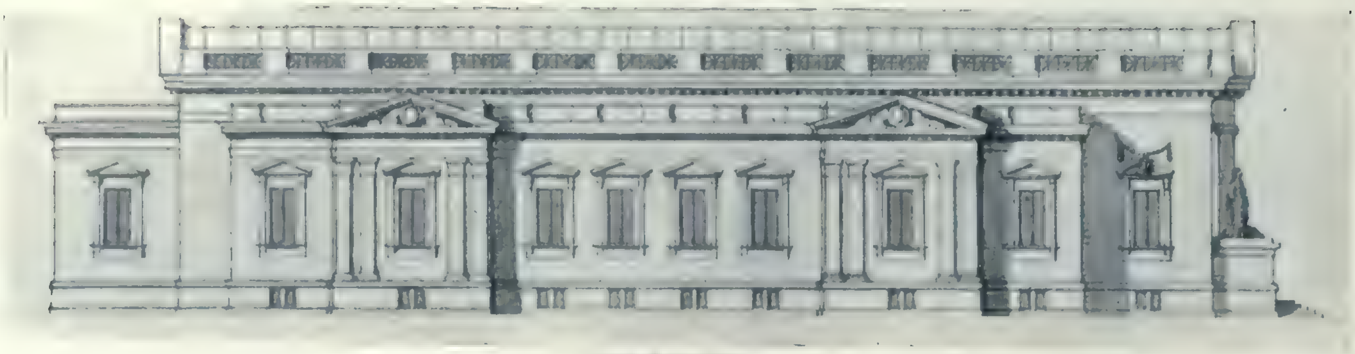
BLOCK PLAN.



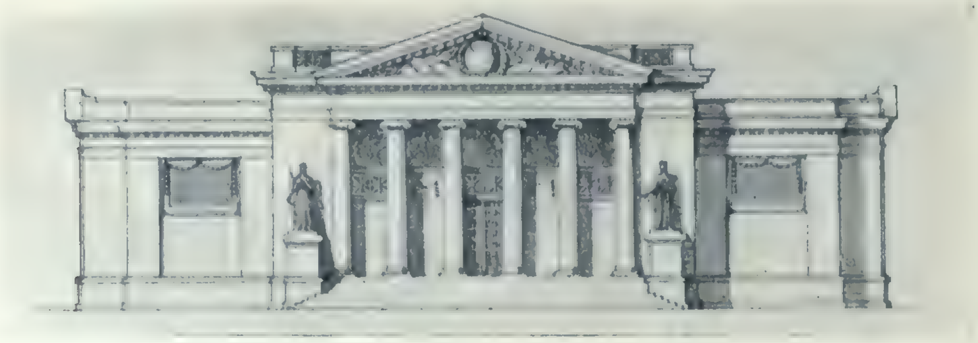
LONGITUDINAL SECTION.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

STOREY & VAN EGMOND, ARCHITECTS.



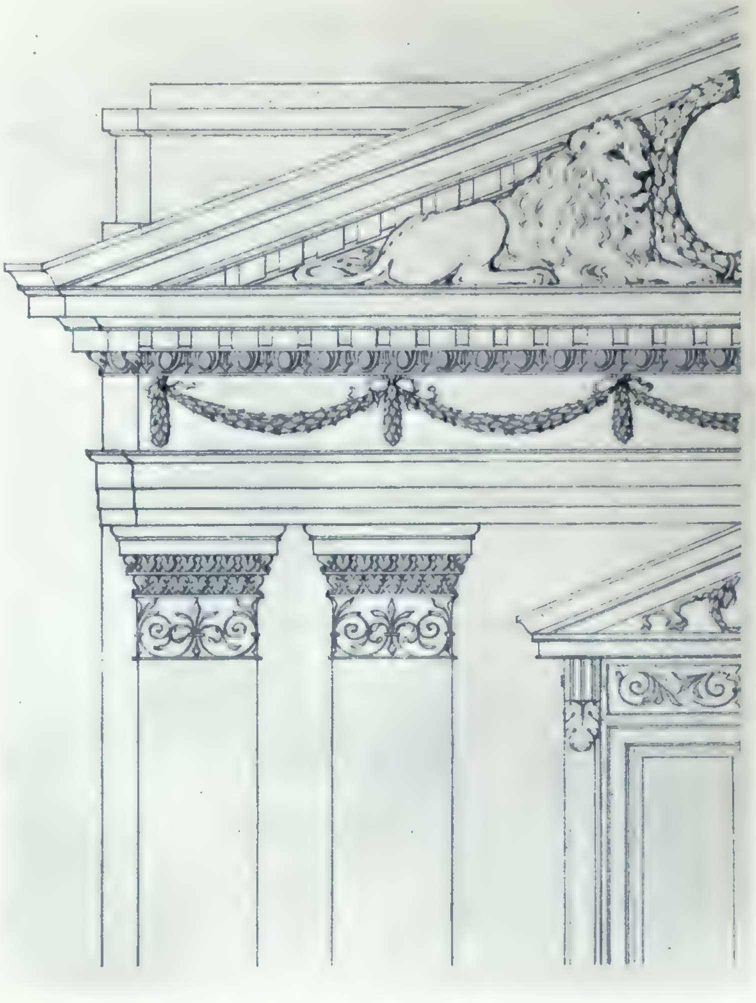
SIDE ELEVATION.



FRONT ELEVATION.

have the important central position in the plan, and the aspidal treatment was introduced in order that the tablets, which in their very nature will always be symbols of valor and sacrifice, should occupy a position of honor quite apart from the routes of circulation, and yet in evidence to all who enter the Museum. In adopting the aspidal treatment, there is a spiritual significance recognized and place of honor given for its commemoration.

The main entrance in its form and dominance in the composition, commemorates the triumph achieved in the great struggle for human rights. Its arched form and ample facilities for entering, all tend to express this idea. The two lunettes show maps, decoratively treated, indicating the places where the great battles took place.



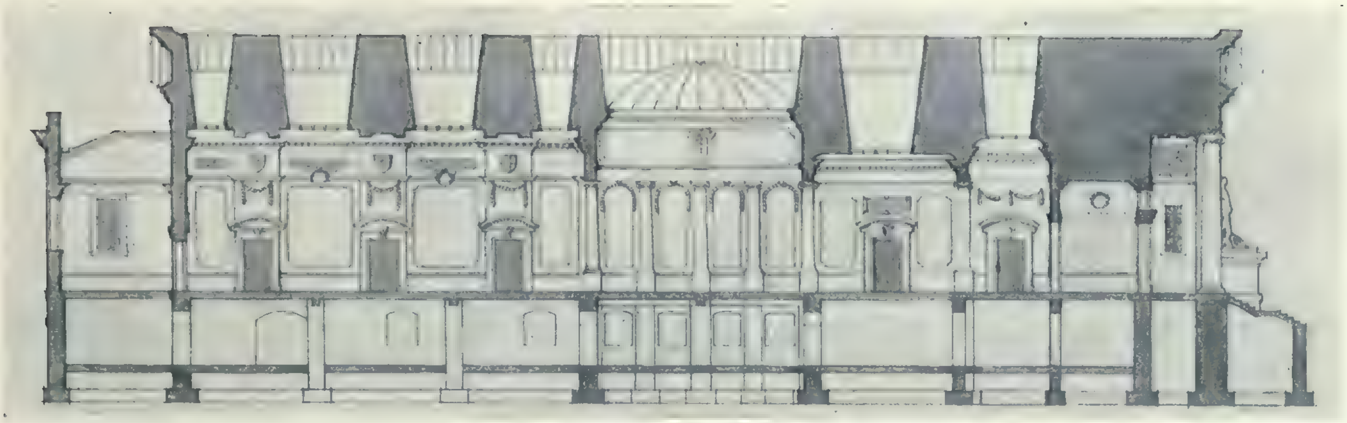
DETAIL.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

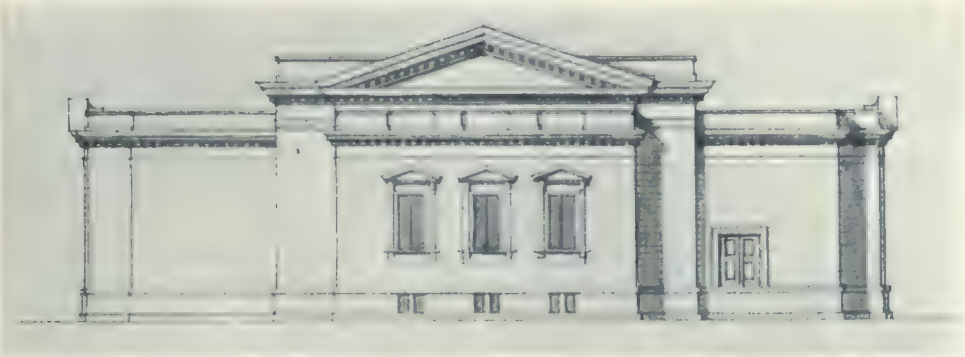
R. G. BUNYARD, ARCHITECT.

Lateral passages on each side give accsss to the War Relics Museum, a well portioned hall that will house in a fitting manner the various engines and implements of war from the smallest articles to the guns and aeroplanes which will require a spaciousness and height for their proper display. The Record Room opens off this Museum, conveniently placed next to the general office.

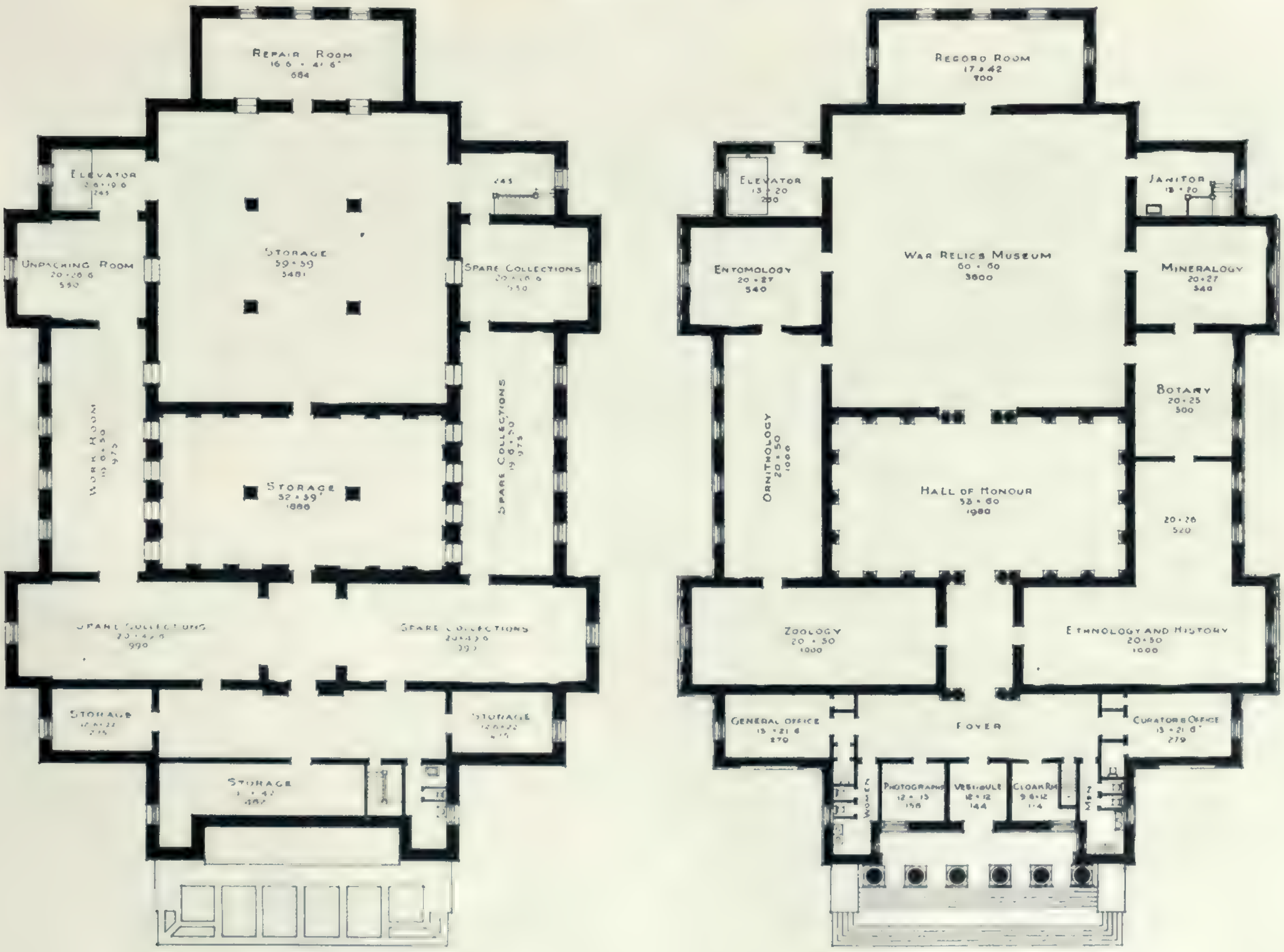
While the Museum rooms are of secondary importance, they nevertheless are well situated, well lighted apartments that in no way suffer by being made subsidiary to the more monumental features of the building. The Museum of Ethnology and History is placed north of the Hall of Honor, while the Museum of Zoology is to the south. Opening off the latter are the rooms for botany,



LONGITUDINAL SECTION.



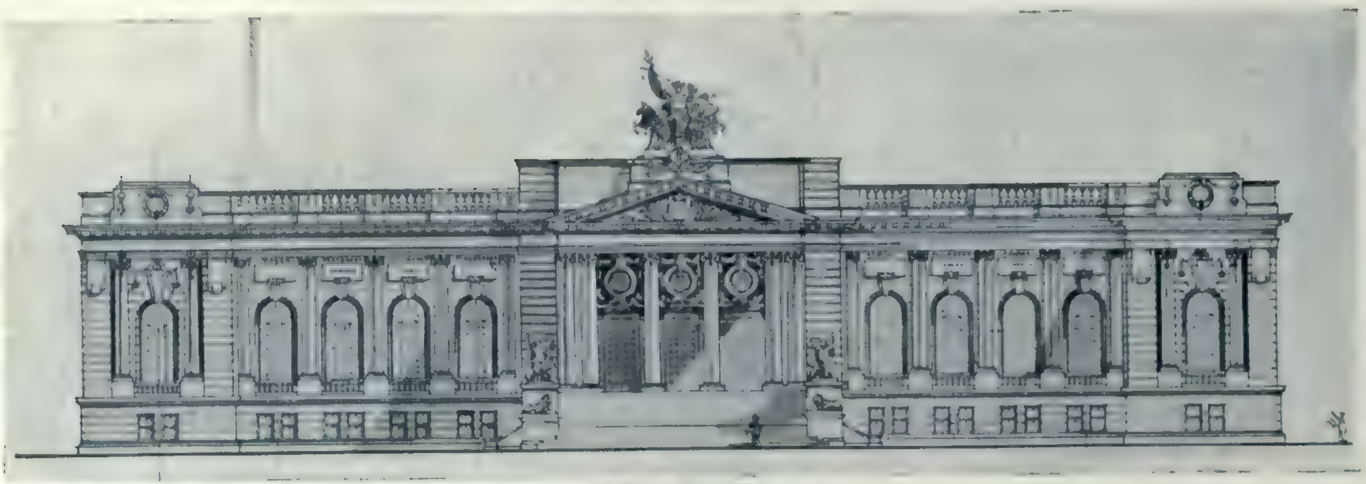
REAR ELEVATION.



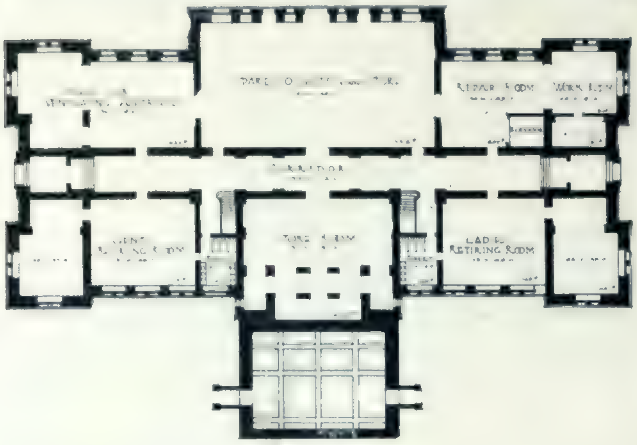
BASEMENT PLAN. GROUND FLOOR PLAN.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

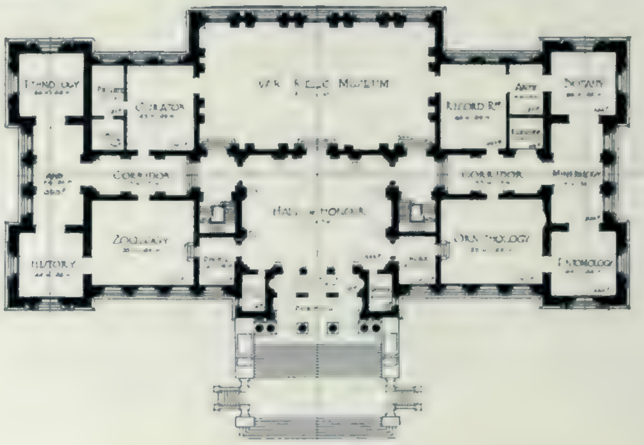
R. G. BUNYARD, ARCHITECT.



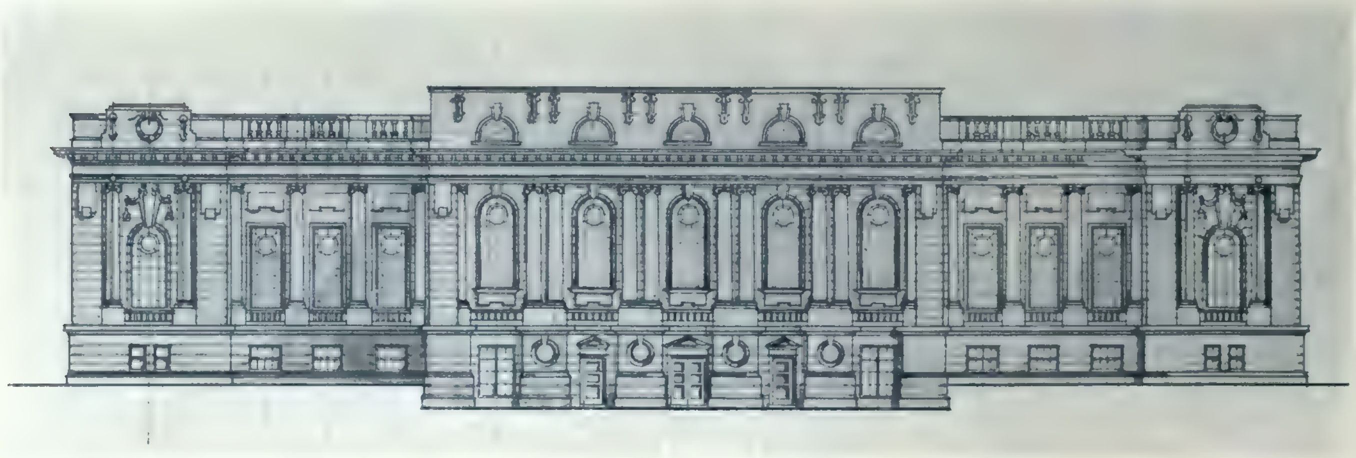
WEST ELEVATION.



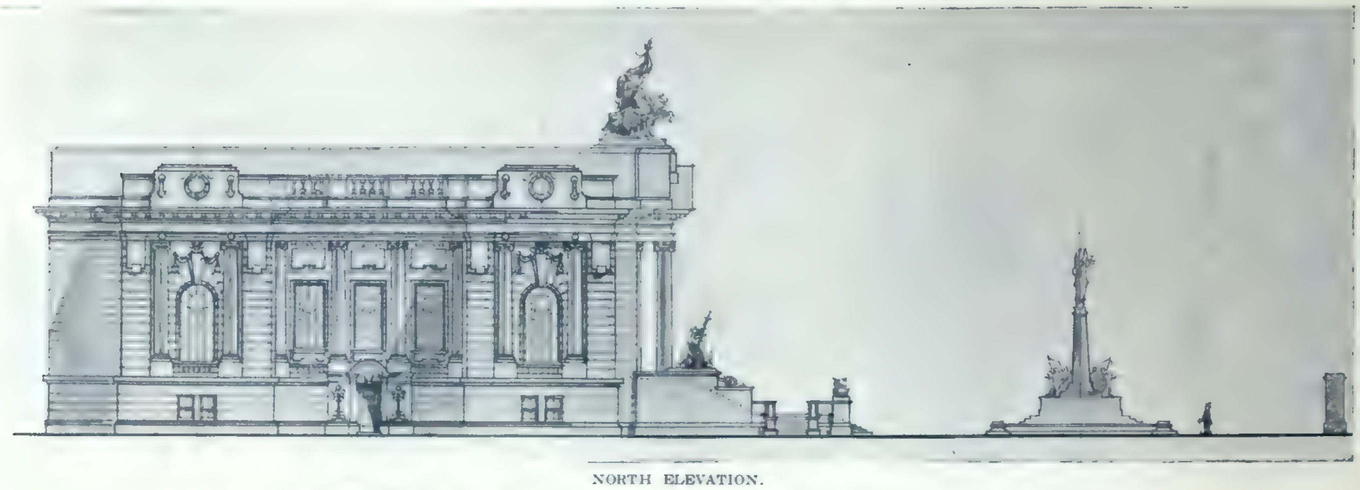
BASEMENT PLAN.



FIRST FLOOR PLAN.



EAST ELEVATION.



NORTH ELEVATION.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

DAVID WEBSTER, ARCHITECT.

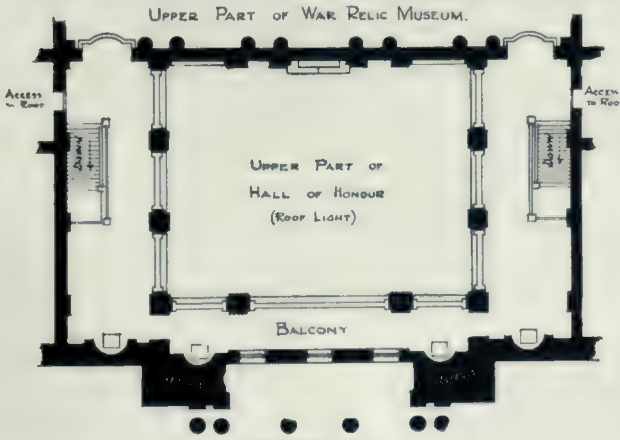
ornithology, mineralogy and entomology

The Curator's private room and general office are easily accessible to visitors, next the records room, thus concentrating the administration of the building in one portion. In the lobby, giving access to the general offices, is located the cases for photographs, etc., thus if necessary being in the care of one of the assistants employed therein.

BLOCK PLAN.

Two staircases giving approaches to the lower floor, a spacious goods hoist, a coat room, and a private lavatory occupy the remaining space on this, the principal floor.

The lower floor contains a receiving, unpacking and storage room for exhibits, close to the goods hoist, with a separate entrance, a repair room, ample rooms for spare collections and stores, while public lavatories are provided for both sexes. The approach for vehicles to the receiving room is on an inclined drive, thus delivering goods to the lower floor level. Provision has also been made for the delivery of large exhibits to the Museum Hall at the rear of the building, where an inclined roadway leading up to a special entrance is provided.


Upper Part of War Relic Museum.
Access to Roof
Access to Roof
Down
Down
Upper Part of Hall of Honour (Roof Light)
Balcony

GALLERY PLAN.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

DAVID WEBSTER, ARCHITECT.

The cubical contents work out to a total of 496,327 cubic feet, allowance having been made for all foundations with a sufficient spread of footing to a depth of 12 feet below the mean level of the site, as well as for all parapets, dome and other features extending above the roof. At the unit of price of 80 cents per cubic foot mentioned in the conditions, the cost of the building would amount to $397,061.60.

COMPETITIVE DESIGN: STOREY AND VAN EGMOND.

As the importance and interest of the building is the Hall of Honor and War Relics Museum, these have been placed in a central location. The Hall of Honor, being accepted as the more important room, is placed on the major and minor axis of the building. Both extend from the main floor to roof, or twice the height of the secondary exhibit rooms.

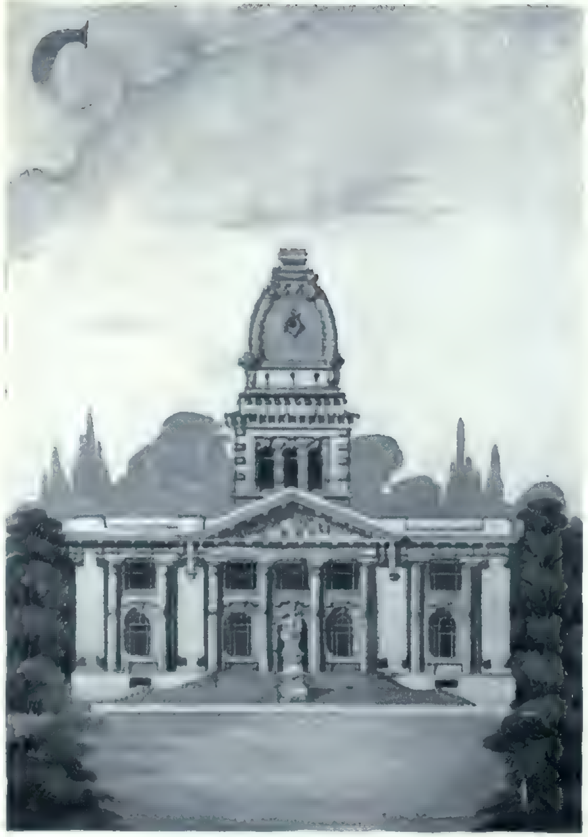
The entrance is through three arched portals into small storm vestibules which have been introduced owing to the extreme climatic conditions and thence into the main vestibule which has cloak room and photo room adjoining.

From the vestibule a comprehensive and interesting vista is afforded through the Hall of Honor and into the War Relics Museum to which one is naturally drawn through a succession of monumental rooms. The Hall of Honor has received careful monumental treatment with vaulted ceiling and side galleries, which afford recurring and different views as a circuit is made in the building. Provision has been made in the room for bronze tablets on which to record the names of men who fell in the war.

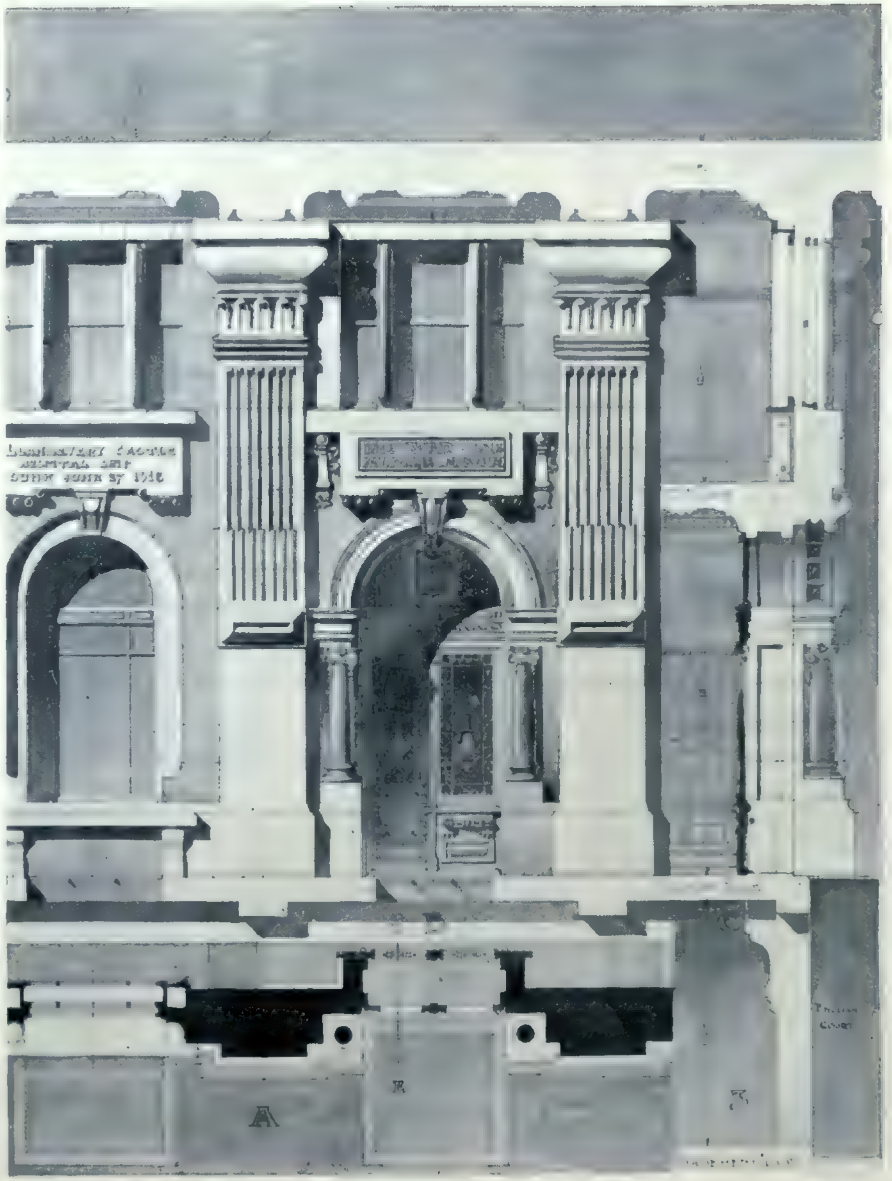
The War Relics Museum is lighted from High windows and a skylight, and in the simple treatment of walls and ceilings an interesting room is secured without elaborate detail, which would tend to detract from the exhibits to be placed in the room. At the extreme end a circular recess has been introduced to receive one of the large guns which the Province will have allotted to it. Adjoining this room is the small room required for records.

Through a careful study of the space required for Provincial Museum, it was concluded that the quite apparent subdivision of space would be to allocate the main exhibit rooms to the ground and first floors and place the spare collections, stores, repair and work rooms in the basement.

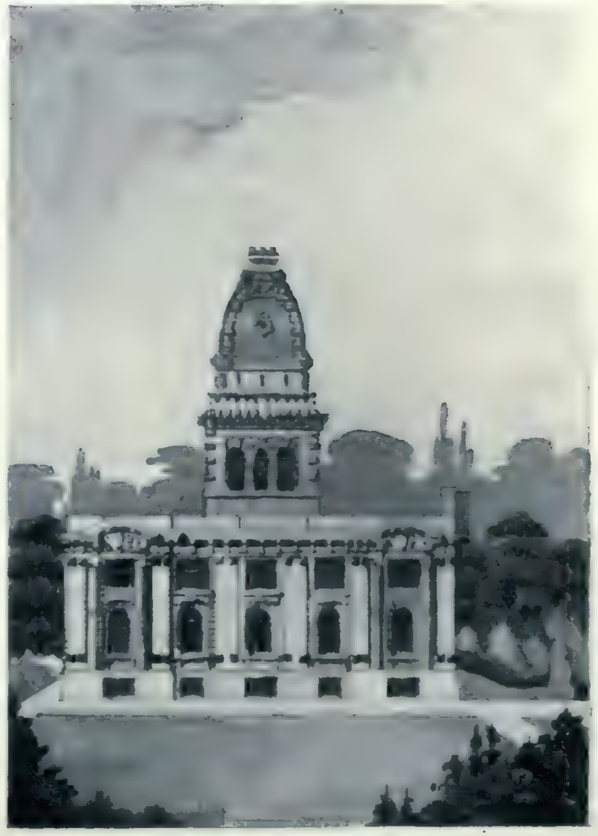
The stairs, although naturally located near the entrance to secure the desired circulation of the public, have been made to a certain extent secondary, as they lead only to rooms of the



NORTH FRONT.



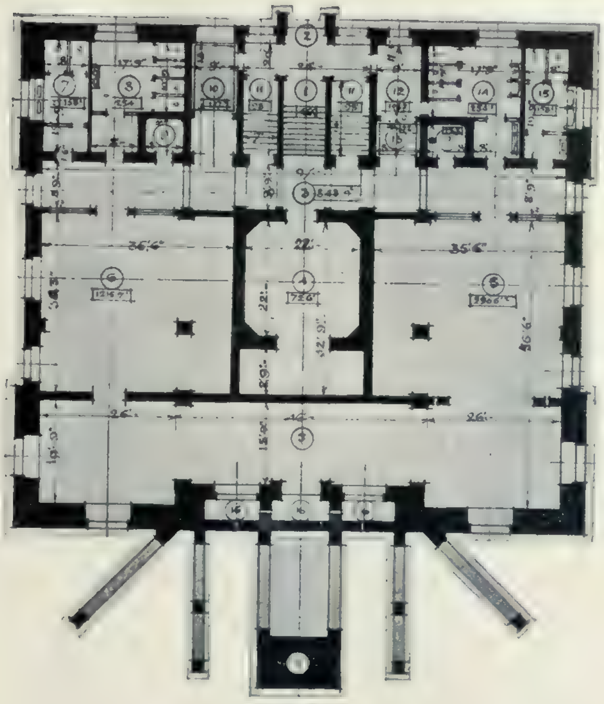
DETAIL.



WEST FRONT.

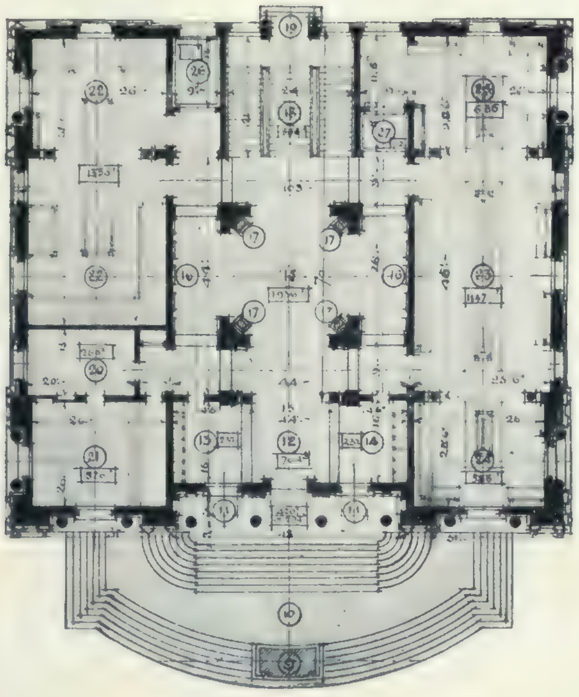
COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

EMIL DELAY, ARCHITECT.



BASEMENT PLAN.

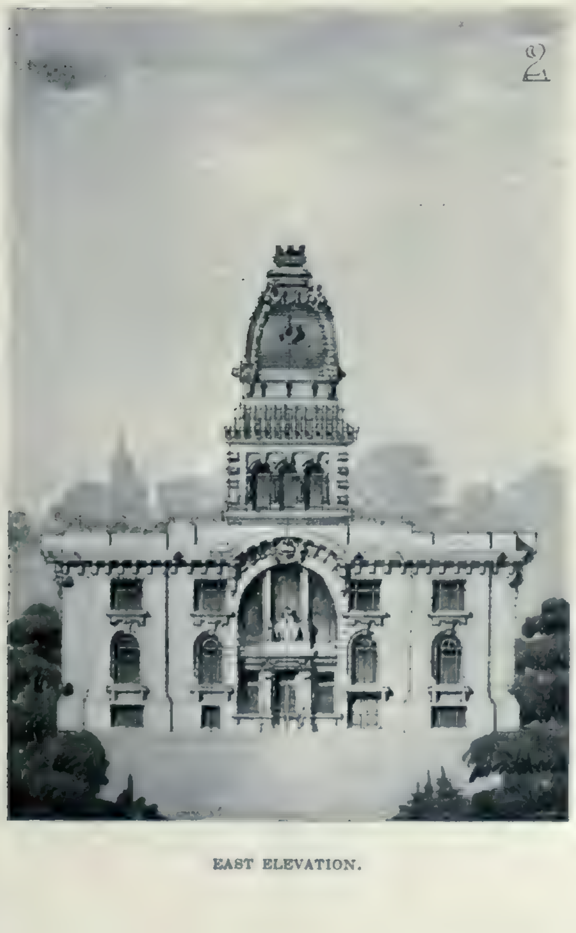
1.—Main Stairway. 2.—East Exit. 3.—Vestibule. 4.—Small Room for Records. 5.—Spare Collection and Stores. 6.—Repair and Storerooms. 7.—Ladies' Lavatory (Staff). 8.—Ladies' Lavatory (Public). 9.—Vaults. 10.—Elevators. 11.—Store Room. 12.—Engine. 13.—Elevator for Public. 14.—Men's Lavatory (Staff). 15.—Men's Lavatory (Public). 16.—English Court with Drainage. 17.—Infrastructure Main Stairway and Statuary Group.



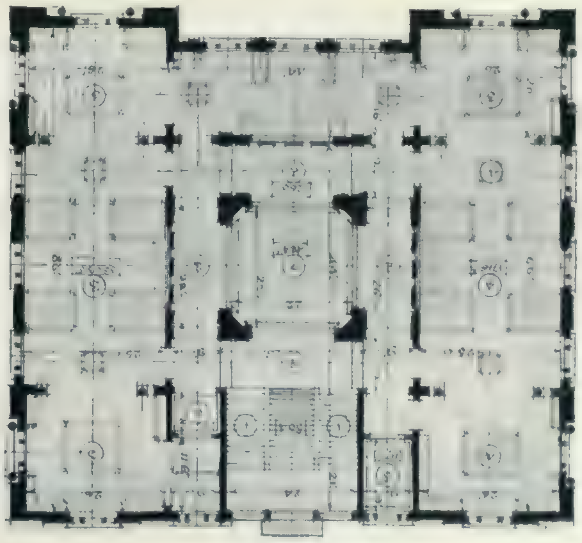
GROUND FLOOR PLAN.

9.—Statuary Group. 10.—Main Entrance Staircase. 11.—Portico. 12.—Vestibule. 13.—Cloak Room. 14.—Photograph Exhibit Room. 15.—Hall of Honor. 16.—Bronze Tablets (Honor Roll). 17.—Busts. 18.—Main Stairway. 19.—East Exit. 20 and 21.—Curator's Offices. 22.—Zoology. 23.—Ornithology. 24.—Entomology. 25.—Botany. 26.—Elevator. 27.—Public Elevator

Provincial Museum, which are themselves of secondary importance. It will be noted that the general arrangement of stairs and rooms provides for the proper circulation of visitors, as required in a museum. One can make a complete circuit of all rooms on both floors without retracing one's steps, thus acording new notes of interest as the intercommunicating rooms are traversed and interesting views of the main rooms from cross-connecting corridors.



EAST ELEVATION.



FIRST FLOOR PLAN.

1.—Main Stairway. 2.—Vestibule. 3.—War Relic Museum. 4.—Ethnology and History. 5.—Elevators. 6.—Public Elevator. 7.—Upper Centre of Hall of Honor.

COMPETITIVE DESIGN, WAR MEMORIAL MUSEUM, REGINA, SASK.

EMIL DELAY, ARCHITECT.

It was accepted that the side lights would be preferable to top lights for the Museum, and in no case have windows been sacrificed to obtain an artificial exterior effect, which would not correspond with the interior requirements.

The Curator's offices have been placed in a central location over entrances and comprise general office, private office and toilet.

It is proposed to employ skeleton reinforced concrete construction with concrete floor slabs, beams, columns, etc., and hollow tile exterior walls faced with Tyndall stone. A reasonable amount of marble, stone, plaster staff, bronze, etc., would be used in the monumental portion of the building with marble mosaic floors, heavy linoleum probably being used in the Provincial Museum. The contents is calculated at 562,950 cubic feet, and the cost at $397,920, or 71½ cents per cubic foot.

COMPETITIVE DESIGN: R. G. BUNYARD.

The Hall of Honor and War Relics Museum as the conditions requested are made the main features of the scheme. The Curator's office, general office, cloak room and lavatories and room for the sale and exhibition of photographs, all face an ample foyer. From this foyer the opening hallway gives an imposing perspective, and brings the Hall of Honor immediately to the visitor's notice. The War Relics Museum can be entered only from the Hall of Honor, thus bringing under observation of the visitor the most important part of the building.

The walls of the Hall or Honor are divided into twenty panels, each panel containing sufficient space to accommodate twelve memorial tablets of similar design. Between the panels and the stained-glass dome space has been left for fresco paintings, featuring episodes of the Great War. The treatment of this hall would be simple with columns and bases in marble, mosaic floor and cornices, etc., in ornamental plaster.

In the War Museum, top light would be used entirely. Columns in this room has been purposely omitted to afford full freedom for the placing of groups of exhibits of any size. The decorative treatment of the War Relics Museum would also be simple, consisting of openings finished in marble with shallow projections, cornices and ceiling design in ornamental plaster and floor of marble.

The War Records room is directly connected with the War Relics Museum and is plainly finished and amply lighted to make it suitable for the purpose intended.

The treatment of the museum rooms would be simple as suggested by the promoters. Lighting would be from the top and sides, with windows placed at such a height as not to interfere with the exhibits.

Access to the basement can be obtained from either the front or rear of the building. The basement contains ample space for storage, etc., and would be finished in plain treatment.

The construction of the building would be fireproof, the use of wood being almost entirely eliminated. The cost, based on a calculation of 55 cents per cubic foot throughout, would be $409,980.

COMPETITIVE DESIGN: DAVID WEBSTER.

The general composition of the design, using the Ionic Order, is carried entirely around the building, thus presenting a pleasing appearance from whatever direction the building is approached. Space is provided for a statuary group in front of the main entrance which is approached by eight steps to a stone platform 46 x 14 ft., with an additional twelve steps leading up to the portico, the approach being flanked with suitable statuary. This entrance forms the main central feature, while at each corner is a projecting subsidiary feature. Around the building, above the windows, is a series of panels intended to be carved in low relief, protraying the historic actions in which Saskatchewan men took part.

From the portico the vestibule is entered through three doorways, each having two bronze memorial doors, the design of which embodies the badges of the different Saskatchewan units. The vestibule opens directly into the Hall of Honor, which has a gallery on three sides There are three circular stained glass memorial windows over the doorway, which are brought into the Hall of Honor over the gallery on the west side. Also a stained glass memorial window on the north and south walls above gallery, the galleries being lighted through skylights, the ceiling lights having stained glass.

The floor of the Hall of Honor will be laid in black and white marble, the pilasters and walls being finished in marble to the cornice line, and plastered above. This room has forty-five lineal feet of wall space available for bronze tablets between the pilasters.

Opening from the Hall of Honor and adjacent to the main entrance is a small room for the exhibition of photographs, cloak room, porter's room and index room.

From the Hall of Honor, a seven-foot archway leads into the War Relics Museum, the floor being dropped two and a half feet lower than that of the former room, thus affording an excellent view of the exhibits on entering. The treatment of this room calls for three-quarter fluted Corinthian columns around the entire room, the ceiling being vaulted from the east to the west wtll, the floor finished in marble blocks, and the walls and cornice in terra cotta, eggshell gloss. The windows are placed ten feet above the floor, which gives good wall space

(*Concluded on page* 290.)

CONSTRUCTION

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ENGINEERING · AND · CONTRACTING
INTERESTS · OF · CANADA

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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

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WESTON WRIGLEY, Business Manager
FRED. T. HOLLIDAY, Advertising Representative

Vol. XII Toronto, Sept., 1919 No. 9

R.A.I.C. and O.A.A. Agenda

Any association can only realize its objects by receiving the support of the individual members who belong to it, and it is therefore to be hoped that the joint meeting of the Royal Architectural Institute of Canada and the Ontario Association of Architects, which is to be held in Toronto on October 2nd, 3rd and 4th, will have the large attendance which is anticipated. In fact, this year's meeting promises in every way to be the most important assembly yet held, covering as it will a large number of subjects and discussions. Addresses will be delivered by a number of well-known architects on issues of special interest to the profession, and such subjects as relate to architectural education, the legal status of the technical profession, the use of the term "Registered," and Housing, have a prominent place on the programme.

The first day will be taken up with the meeting of the O.A.A., and the evening will be spent by the members as guests of Prof. C. T. Currelly at the Ontario Museum of Archeology. At the mid-day luncheon on this day at the King Edward Hotel, the "Viewpoint of the Public as Regards the Profession" will be discussed.

On the second day the R.A.I.C. will hold their assembly, including a luncheon which will be enlivened by a round table discussion by the Hon. H. J. Cody, Minister of Education, Sir Robert Falconer, of the Toronto University, and Gen. C. H. Mitchell, Dean of the Faculty of Applied Science and Engineering. At the morning session, Professor Ramsay Traquair, of McGill University, Montreal, and Mr. W. D. Cromarty, of Ottawa, will discuss architectural education. In the evening there will be a private view of an architectural exhibition under the auspices of the O.A.A at the Toronto Art Museum, at which visiting members will be invited to attend. Subsequent to this the members will have the opportunity of listening to an address by Mrs. H. Dunington Grubb on landscape work. The exhibition of drawings will extend for a full week and will be open to the public.

The third day will resolve itself into a joint session of the two bodies. "Town Planning Acts and their Results" will be discussed by Messrs. N. Cauchon and Thomas Adams; "Housing" by Messrs. W. D. Cromarty and James Govan; and "War Memorials" by Professor P. E. Nobbs and Mr. Herbert E. Moore. The day will conclude with a visit to the Royal Ontario Museum.

Altogether an excellent programme is provided and such questions as "Registration" and "Legal Status of the Technical Professions," which will be discussed by Mr. Ralph Shepard and Messrs. J. P. Hynes and Harry G. Acres, will undoubtedly lead to some definite action to secure better recognition for the profession, and with the other subjects under consideration result in a good amount of work being accomplished.

◆

A Bigger and Better C. N. E.

The record-breaking attendance at this year's Canadian National Exhibition, coupled with its uninterrupted success in the past and the increasing demand for exhibit space, has clearly demonstrated the need of additional accommodations. Consequently it is a sign of a wide-awake and progressive policy to see the management seeking a plan for the enlargement of the grounds and buildings. What is essentially required is a definitely thought out working scheme, which will permit of a consistent development with reference to all future buildings and improvements. In announcing the competition for this purpose, however, the directors should have provided a more substantial inducement than the three prizes offered, namely: First, $600, second, $250, and third, $150. Any such scheme as would deserve consideration would involve elements of time, study and personal expense greatly in excess of what this sum justifies.

Moreover, the Board should have the services of an expert to advise it in preparing the programme and to assist in making the awards. Besides this it might also be advisable to extend the competition beyond the time set, Sept. 15th to November 1st inclusive.

Bringing within its scope the commercial and manufacturing resources of the country as well as expressing in purpose its arts and industry, an effort should be made to make the buildings of the Exhibition of the greatest architectural importance. A programme should therefore be prepared under expert direction to include a block plan of all existing structures, and with the conditions so drafted as to induce the very best architectural and landscape talent and ability to compete.

Practically all of the present buildings are overcrowded and inadequate for their purpose, and will eventually have to be greatly enlarged and remodelled or entirely replaced. The Exhibition has grown so rapidly that it is now the biggest annual event of its kind in the world. More exhibit space is demanded and better accommodation for the public required. The present buildings have served their time and purpose well. Considering that they were hurriedly built from year to year to meet increasing demands for space, they have not only fulfilled their original requirements, but were distinctly exhibition buildings in type.

Now the time has come to consider something on a more dignified scale, a series of buildings entering harmoniously into a general architectural and landscape scheme. In the object which they have set out to accomplish, the Board has a splendid opportunity. Immediate improvements contemplate the erection of several buildings, and these could be made the nucleus of a scheme to be modelled along the line of the Chicago World's Fair or the San Francisco Exhibition. Of course, the development of such a scheme would be gradual, but the present seems an opportune time to make a start. To do so and consider the problem intelligently would mean that Toronto would not only have an exhibition group of national importance, but one which would be architecturally of international repute.

◆

War Memorial Museum, Regina

(*Continued from page* 288.)

around the entire room for exhibits, the height of the ceiling being forty-five feet.

The rooms containing the natural history and scientifil collections are easily approached, having access direct from the corridors, the Hall of Monor anr the War Relics Museum.

The stairs are situated between the corridors and the Hall of Honor, and give access to the galleries, the War Relics Museum and the basement. The corridor walls will be finished with a 6 ft. terra cotta wainscott and plastered above, the floor being laid in English quary tile with marble border. In the natural history and scientific rooms the floor will be of oak.

Retiring rooms and toilet accommodations for both sexes are in the basement. Space is also provided for spare collections, repair and work rooms and stores; the latter having three doorways opening direct to the driveway at the rear., which is brought down to the basement level.

The total cubical contents of the building is 876,037 cubic feet, and the estimated cost $404,635.

COMPETITIVE DESIGN : EMIL DELAY.

The design submitted provides for a building in the Louis XVI style, having a Doric portico on the west front. The Hall of Honor, which occupies the centre of the building and extends up two stories, is lighted by twelve large windows and twelve loopholes placed in its upper part, the Curator's offices, protograph exhibit and natural history rooms being conveniently arranged on both sides and end of the space utilized for this purpose. The total height of the Hall of Honor would be 65 feet, and stone tablets placed horizontally along the walls would serve to recall the great battles in which the Canadians took part.

The first floor is arranged with balconies on all sides overlooking the Hall of Honor, and giving means of access to the War Relics Museum, and the departments of Ethnology and History.

The general treatment of the interior calls for considerable decorative work of a symbolical character. The cubical content is given as 426,092 feet, and the cost calculated at $340,873, leaving $59,126 of the sum available for the construction of the footings, outside main staircase, engineering fees, etc.

◆

CONTRACTORS and SUB-CONTRACTORS

RETAIL STORE OF FAIRWEATHER'S LIMITED, TORONTO.

Awnings, American Tent & Awning Company.
Boilers, Kewaunee Boiler Company.
Brickwork, James A. Wickett Company.
Cabinet and Fittings, M. Fromson.
Carpentry, James A. Wickett.
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Steel Sash, A. B. Ormsby Company.
Sprinklers, Canadian General Fire Extinguisher Company.
Weatherstripping, S. L. Hammond.
Wrought Iron Rails, Architectural Bronze & Iron Works.
Vacuum Cleaner, United Electric Company.

CONSTRUCTION

October, 1919 Volume XII, No. 10

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HALIFAX RE-HOUSING DEVELOPMENT 292

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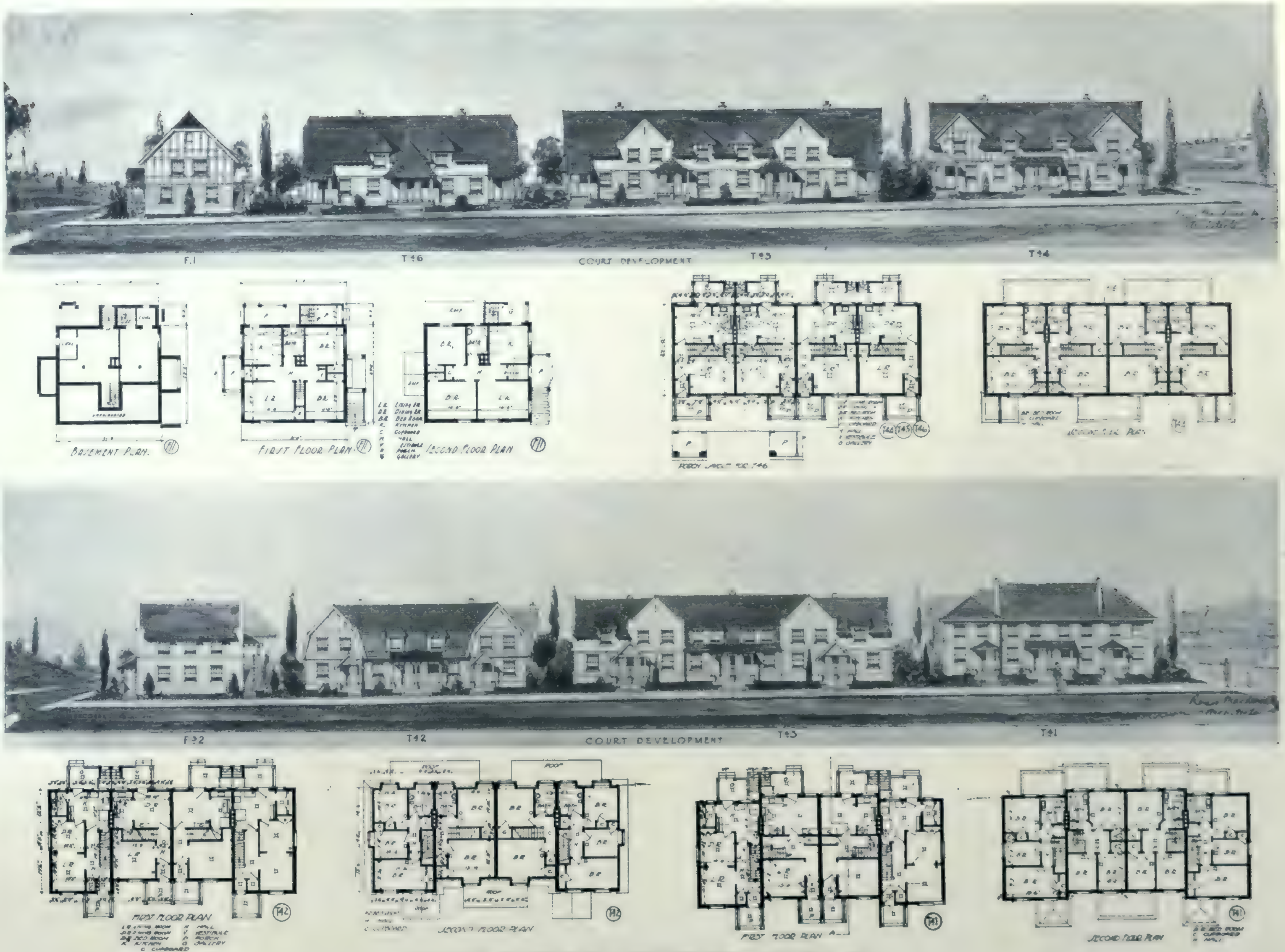
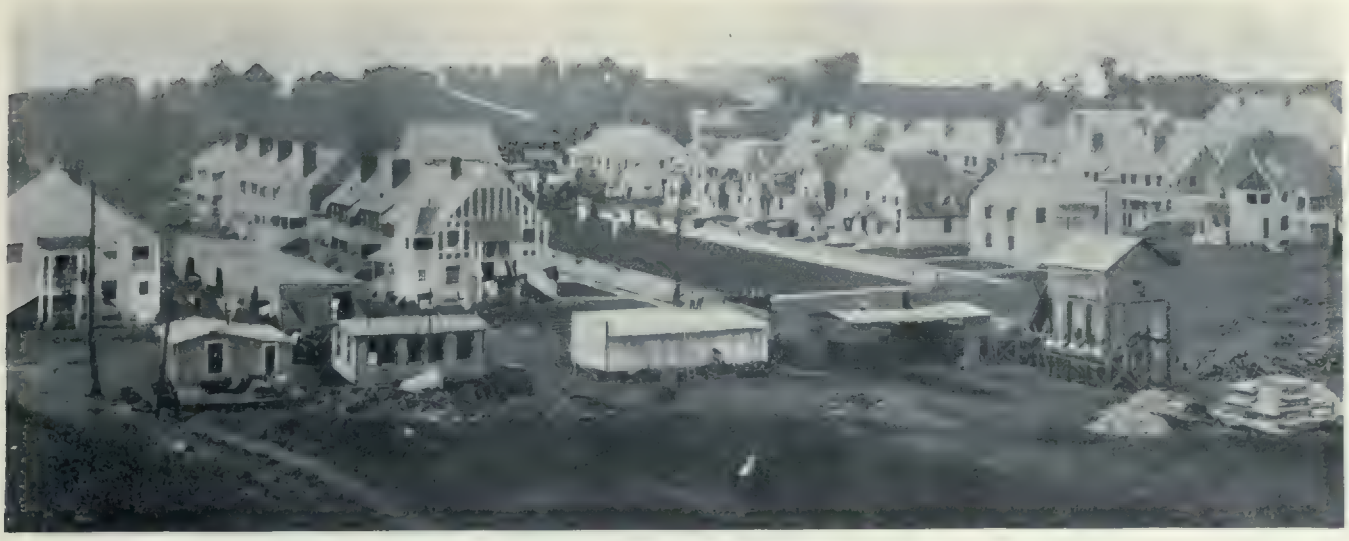
BRANCH OFFICES
MONTREAL NEW YORK



HALIFAX RE-HOUSING DEVELOPMENT, HALIFAX, N.S.
ROSS & MACDONALD, ARCHITECTS.



COMPLETED COURT DEVELOPMENT, RE-HOUSING SCHEME, HALIFAX, N.S.

The Halifax Disaster and the Re-Housing

By George A. Ross, F.R.I.B.A.

Ross & Macdonald, Architects, Montreal.

THE explosion which took place in the harbor of Halifax and which destroyed a considerable portion of that city, occurred nearly two years ago, on the morning of December 6, 1917. About two square miles in the north end of the city, were laid waste in about two seconds, when the cargo of the munition ship "Mont Blanc," consisting of 4,000 tons of one of the most deadly explosives known to science was ignited a few minutes after the collision of this vessel with the Belgian relief ship "Imo."

As the "Mont Blanc" blew up near the Halifax shore the portion of the city north of Russell Street received the full force of the explosion and nothing was left standing above the ground in this section of the city. More than fifteen hundred people were either killed instantly or died in the wreckage and thousands of homeless and injured ones were forced to flee for their lives from the fire which immediately began to break out in the ruins of each shattered building, and continued to rage until the first blizzard of the winter extinguished the blaze, and left this whole area a mass of smoldering ruins.

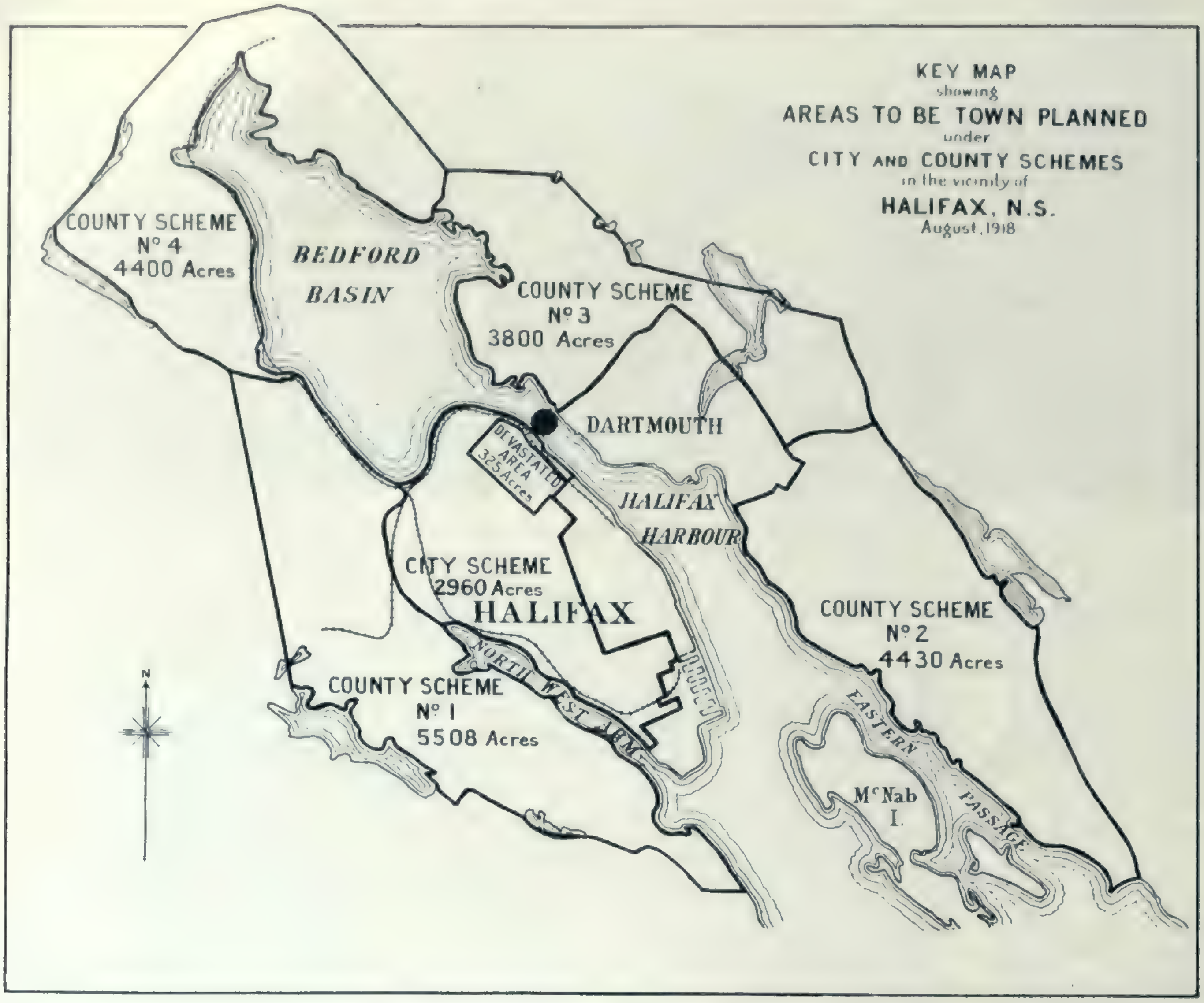
Rescue work began at once, at first haphazard, then organized under a temporary committee. Relief measures grew from local first aid to assistance of the most substantial kind from cities and States near and far. Large funds of money were appropriated to carry out immediate relief of human suffering, and later a program of reconstruction took definite form.

Six weeks after the explosion a relief commission was appointed. The ruins were cleared away, and with builders working day and night, colonies of temporary houses sprang up on the Commons and public grounds of the city, and some five thousand people of the devastated area were more or less housed in a remarkably short time. Approximately 8,000 houses have been repaired. Industries that faced ruin have been sustained by aid in rehabilitation, and permanent houses to the extent of some 700 homes are now rapidly nearing completion.

The Relief Commission, under the energetic and untiring leadership of its chairman, Mr. T. Sherman Rogers, K.C., ably assisted by Judge Wallace and Mr. Fowke, his fellow commissioner, immediately undertook an active program to administer the investment of millions of dollars which had been provided for relief purposes, involving the complete rebuilding of districts in which the houses had been destroyed beyond any hope of repair.

The commission called into consultation Mr. Thomas Adams, town planning adviser, Commission of Conservation, Ottawa, and Ross & Macdonald, architects, of Montreal. The work of planning a greater and better Halifax has had the careful study of Mr. Adams for some years past, and extensive areas of undeveloped land surrounding the city have been sufficiently surveyed to fix the boundaries of the several city and county schemes.

Altogether the rebuilding of the many hundreds of dwellings in the affected area is of special interest at this time when so much attention is being given to the subject of housing, because it involves the most pretentious utilization of concrete units that has ever been undertaken and the most extensive housing program that has as yet been considered in Canada.



Devastated Area

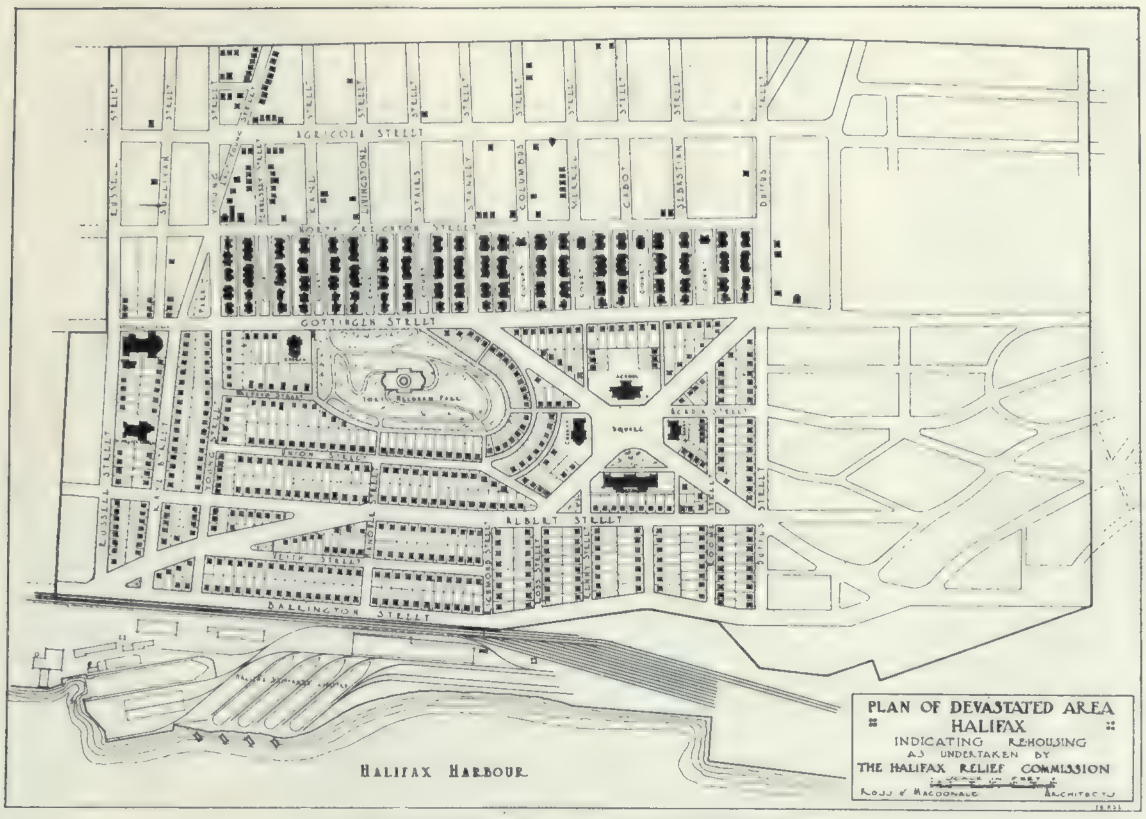
Immediately following the appointment of the Relief Commission, that section of the city more or less completely destroyed by the explosion, comprising some 325 acres and now known as the devastated area, was set aside to be dealt with by the Halifax Relief Commission under statutory provisions included in the Halifax Relief Act.

Through the courtesy of Mr. Adams, and under his supervision and criticism, Mr. H. L. Seymour, his able assistant, has been almost continuously employed in the careful consideration and study of this particular area, with the result that definite boundaries have been fixed by survey lines, street grades have been established on all main thoroughfares, and building lines laid down for all properties throughout the area. Definite sections have been set aside for residential and industrial development and areas fixed for first and second class construction.

The Halifax rehousing problem differed radically from that presented by the usual industrial town or housing development, in that well developed streets had existed in this area before the explosion, and the water and drainage service in the streets was still intact, and must, if possible, be taken advantage of. The original city plan of this section, having little or no regard for the ground contours, was naturally most unsatisfactory, with streets arranged on a hillside in rectangular blocks, so that the cross streets mounted straight up the hill at excessive grades with main thoroughfares only at the top and bottom of the slope, having no convenient means of communication between them.

In the study of the new Town Planning Scheme, it was decided to retain as many of the old streets as possible, preserving the existing water and service lines, and to introduce two new diagonal thoroughfares crossing midway up the slope, so as to give communication at easy grades between the upper and lower levels, that is, between Gottingen and Barrington Streets, the two main thoroughfares running north and south paralleling the harbor and Richmond Slope.

Widths of Streets—Careful consideration was given to the study of the main traffic thoroughfares, with the result that the diagonal boulevards were fixed at a width of eighty (80)



MAP OF THE DEVASTED AREA OF HALIFAX AS REPLANNED.

feet, and while wide streets have been established in certain instances for traffic reasons, and as an incentive to a more desirable housing development; still many existing streets, on the other hand, bearing no direct traffic have been reduced, all street widths being fixed with regard to their grades, length and estimated traffic.

Building Lines:—A general plan with regard to building lines was adopted, fixing a distance of not less than fifteen (15) feet from the street line, where lots are one hundred (100) feet deep or over. For shallow lots the set back has been reduced three (3) feet for every ten (10) feet of reduction in the depth of the lot, subject to proper architectural treatment being given to the building. A scale computed in accordance with this rule resulted as follows:

Lots	100 feet deep	set back 15 feet.
"	90 feet deep	set back 12 feet.
"	80 feet deep	set back 9 feet.
"	70 feet deep	set back 6 feet.
"	60 feet deep	set back 3 feet.
"	50 feet deep	set back Nil.

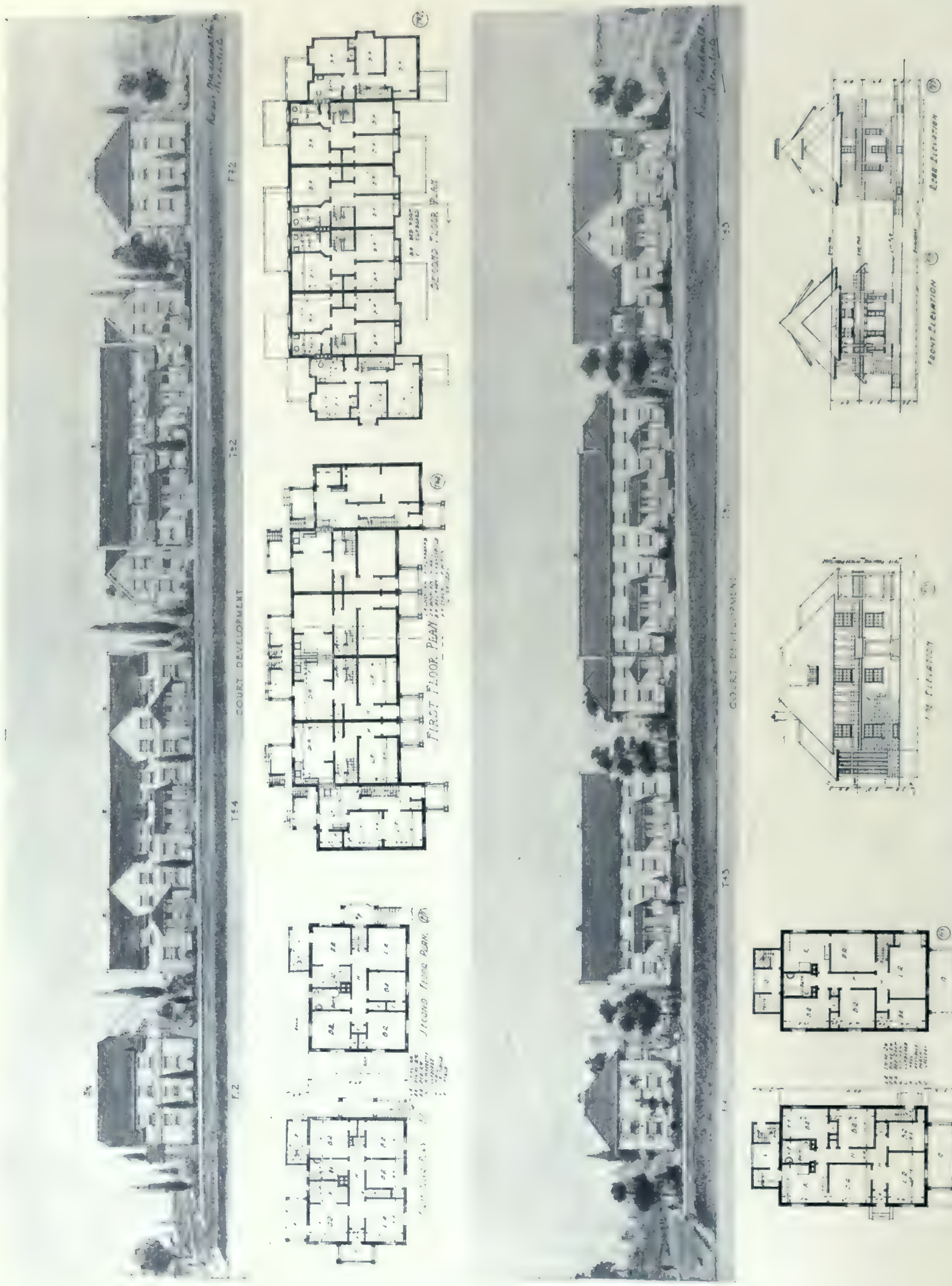
Open Spaces:—On the original City Plan of this district there were open spaces having a total area of approximately five (5) acres, but so located as to be of indifferent value. In the study of the new plan, the Commission has abandoned these open spaces, absorbing same within the building area, the site of the old parks being exceptionally good locations for building purposes, while due to their position and the contour of the ground, they are practically impossible as playground or satisfactory park lands.

For open spaces other than streets and paved areas, Fort Needham with an area of over eight (8) acres has been acquired by the Relief Commission for a public park, while playground areas have been provided in the form of open spaces or courts of three hundred (300) feet in depth and one hundred and forty (140) feet in width, forming the grass areas or open courts between houses of the "Court Development," eight of these Courts being provided in this particular development.

Fort Needham is very well situated as a park for the southern section of the devastated area and occupies the highest land in the vicinity (lying at an elevation of from 180 to 225 feet above ordnance datum), with remarkably beautiful views of the harbor, Bedford Basin and the ocean. It is, however, unsuitable for building purposes owing to its steep approaches.

Building Restrictions:—Building restrictions were carefully considered and established governing the spacing of houses and class of materials used in their construction. The subdivision of land acquired by the Commission has been adjusted on a unit of 120 feet, giving two 60 ft. lots, three 40 ft. lots (and in terrace groups, four 30 ft. lots, and even less).

A restricted building area east of Gottingen Street, extending to the water front, permits only of the construction of the better type of buildings, having masonry, brick, concrete or stucco walls, with a fireproof material for the



HALIFAX RE-HOUSING DEVELOPMENT, HALIFAX, N.S.
ROSS & MACDONALD, ARCHITECTS.

roof. Detached dwellings where of frame construction are in no instance placed closer than eight (8) feet to the side lines of the property, thus giving a minimum distance between houses of this type of sixteen (16) feet.

Semi-detached or terrace groups of houses are so constructed as to be entirely separated by fire party walls of brick or other acceptable fire proof material.

General standards of building construction, standards governing the minimum size and heights of rooms, area of windows, stairs and clothes closets and general sanitation, etc., have been adopted and rigidly adhered to, the standards so fixed being practically identical with those accepted by the United States in connection with their Permanent War Housing Programme.

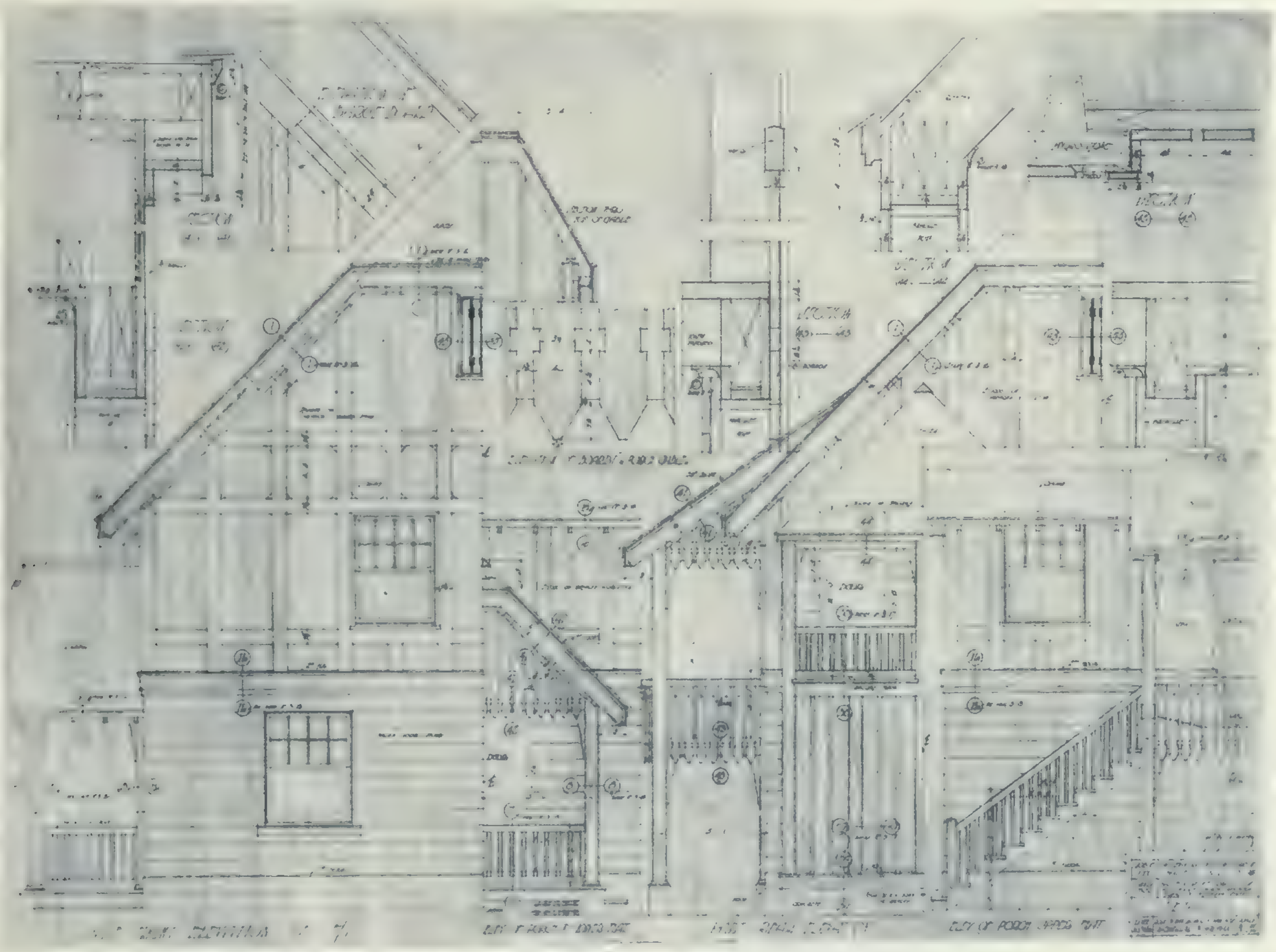
Service lanes have been provided, in the Group Development only; these lanes contain all service features, such as sewerage, water, gas and electric light; and are twelve (1) feet in width, with curb and pavement in every instance.

Housing:—In order to determine upon a definite programme as to the best procedure to follow in obtaining the reconstruction of the greatest number of individual homes within the shortest possible time, it was imperative that accurate information should be obtained as quickly as possible on the following essential facts:

(a) Number of families rendered homeless by the disaster for whom provision must be made.

(b) Detailed information as to size and general condition of the homes destroyed, especially as to the amount of accommodation, the number and size of rooms, character of construction and the condition of the building for valuation purposes immediately prior to the explosion.

(c) The cost of replacement by new buildings under existing inflated building values.

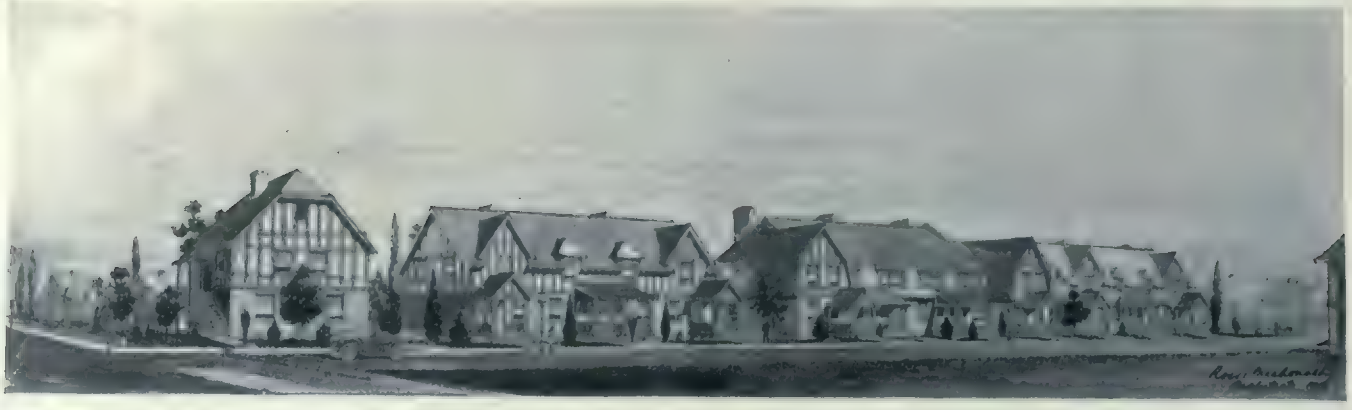


DETAILS OF TYPE F.1. DETACHED DWELLING, RE-HOUSING DEVELOPMENT, HALIFAX, N.S.

From records obtained by the Commission in connection with the first item, it was estimated that one thousand families must be rehoused, this estimate being subsequently reduced to seven hundred and fifty.

Information as to the individual requirements of the second item could only be obtained through personal interview and reference to the city records.

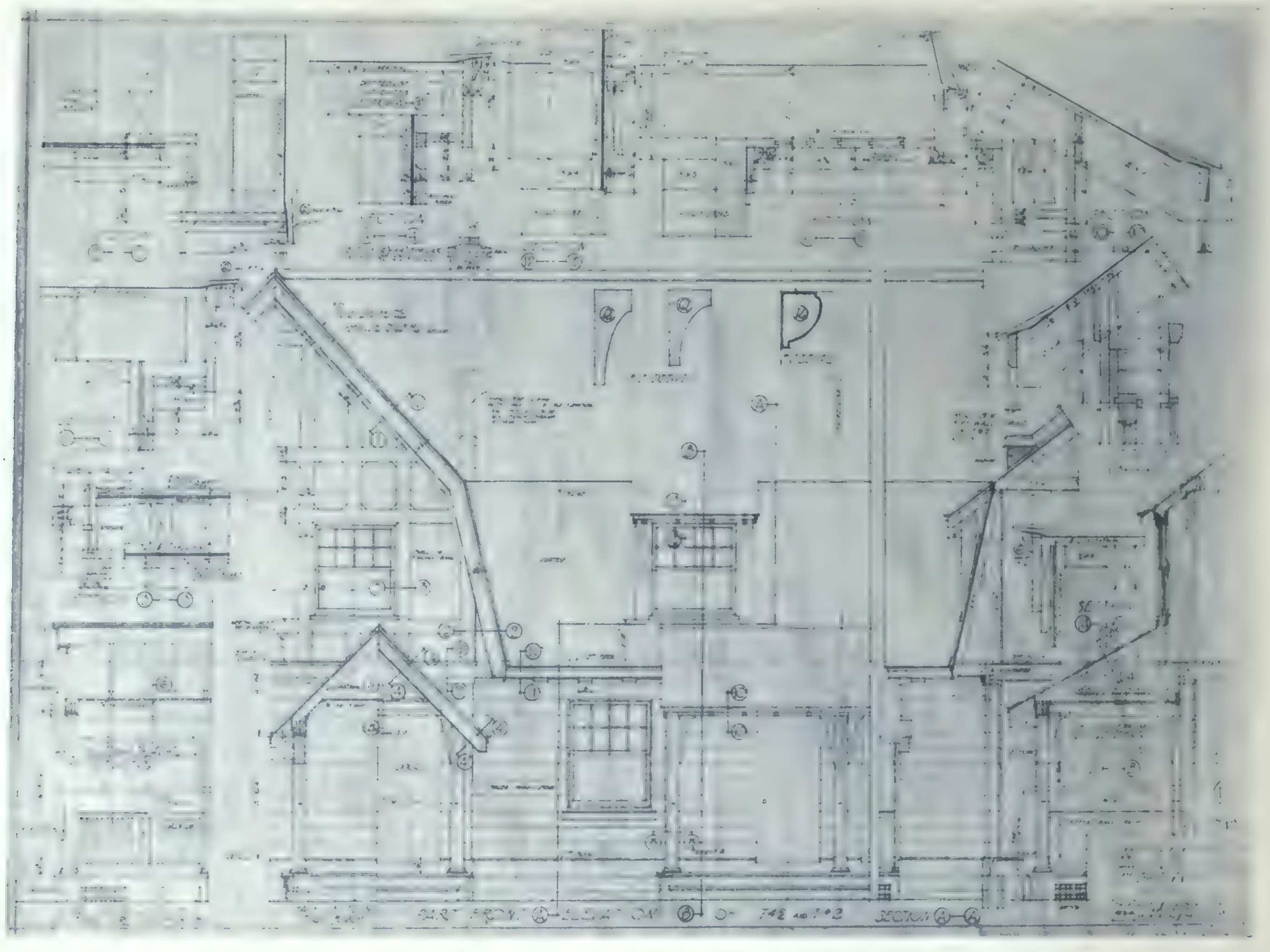
Records of value of homes prior to the disaster were obtained through the active work of



PERSPECTIVE OF NORTH FRONT, COURT NO. 2, RE-HOUSING DEVELOPMENT, HALIFAX, N.S.

an Appraisal Board appointed for this purpose.

Faced with the necessity of interviewing each individual householder who had lost his home, ascertaining his requirements and providing a plan to meet the individual need at reasonable cost of reconstruction, was a task requiring considerable patience and time. In the meantime it was found essential to immediately house as many families as possible in more permanent structures than those provided for temporary relief, and it was realized that this could only be accomplished by the rapid construction of some four hundred dwellings of varied design and accommodation. For this purpose, a suitable plateau at the crest of the slope of the devastated area was procured, and active building operations started promptly. Beyond this development at the crest of the hill and away from the harbor, there had existed a district in which the houses were of a less pretentious sort than those on the slope itself, and as these houses were at some distance from the point where the explosion took place, they were not entirely destroyed. A somewhat better type of house was desired on the crest of the hill and on the slope overlooking the harbor, and it was felt that the first group of houses, should more or less form a screen between the industrial district



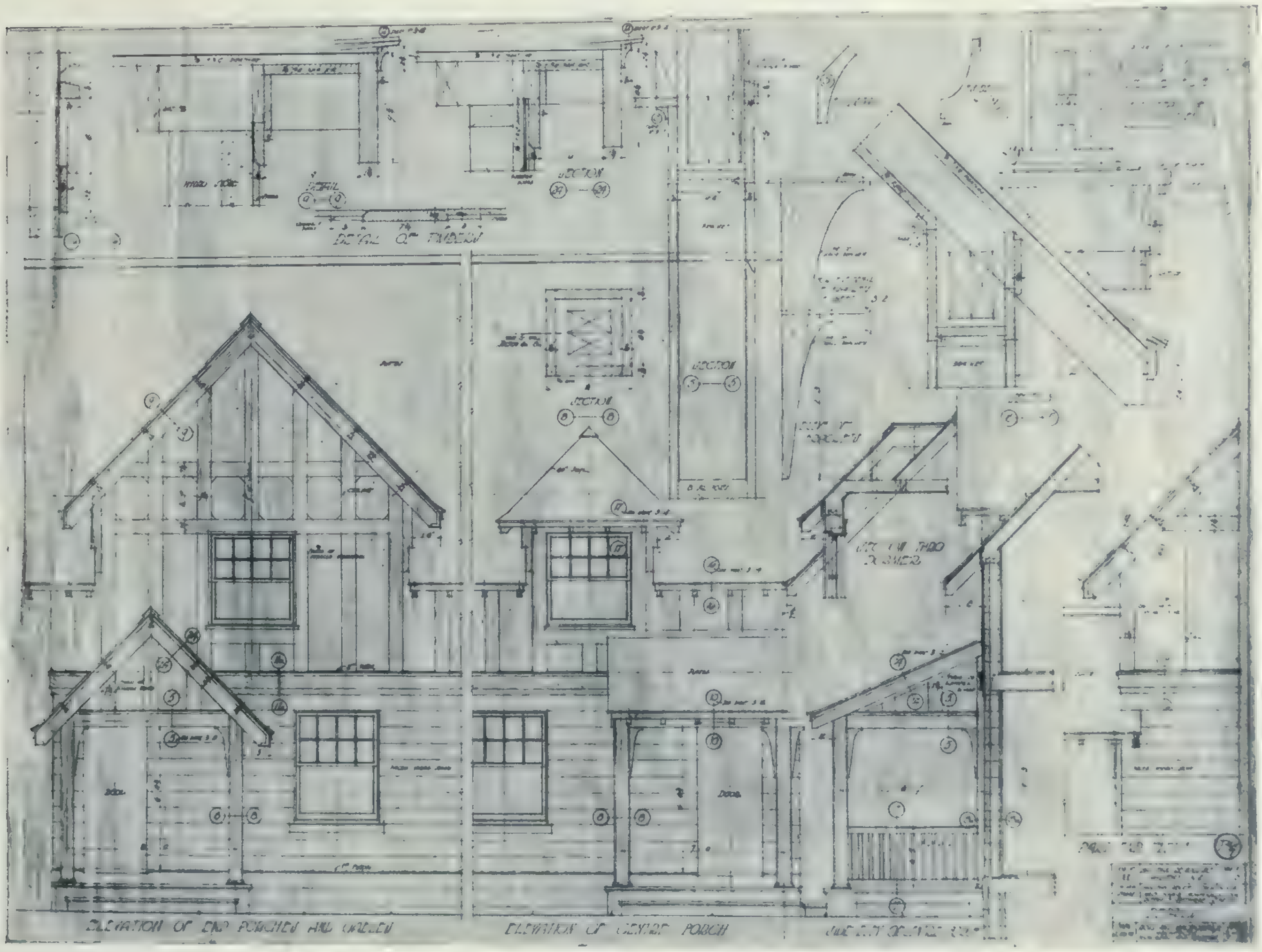
DETAILS OF TYPES T.^{8} 2 AND T.^{4} 2 TWO AND FOUR-FAMILY DWELLINGS, RE-HOUSING DEVELOPMENT, HALIFAX, N.S.

and the residential section on the slope of the hill.

The work of rehousing has, therefore, divided itself into three parts, which are known as—

The Group or Court Development,
Frame Dwellings,
Individual Housing.

The Group Development:—The purpose of the Group or Court Development was to give shelter to as many families as possible while their own permanent houses were being built and afterwards to provide dwellings which might be rented by those families who were tenants in the devastated area. It was decided to build dwellings of from four to six rooms each, with bathroom, electric light and all modern sanitary conveniences, and to arrange these buildings in short rows, composed of two, four and six dwellings each, on each side of a series of wide grass courts, which would serve as playgrounds for the children. To the rear of the houses service lanes have been constructed with cement curb and pavement. These service lanes communicate with the main thoroughfares running north and south and are of sufficient width to permit of the passage of tradesmen's wagons. In each of these lanes has been installed the water and sewer services for thirty dwellings Service yards have been provided in the rear of each dwelling of a sufficient area to meet the usual requirements.



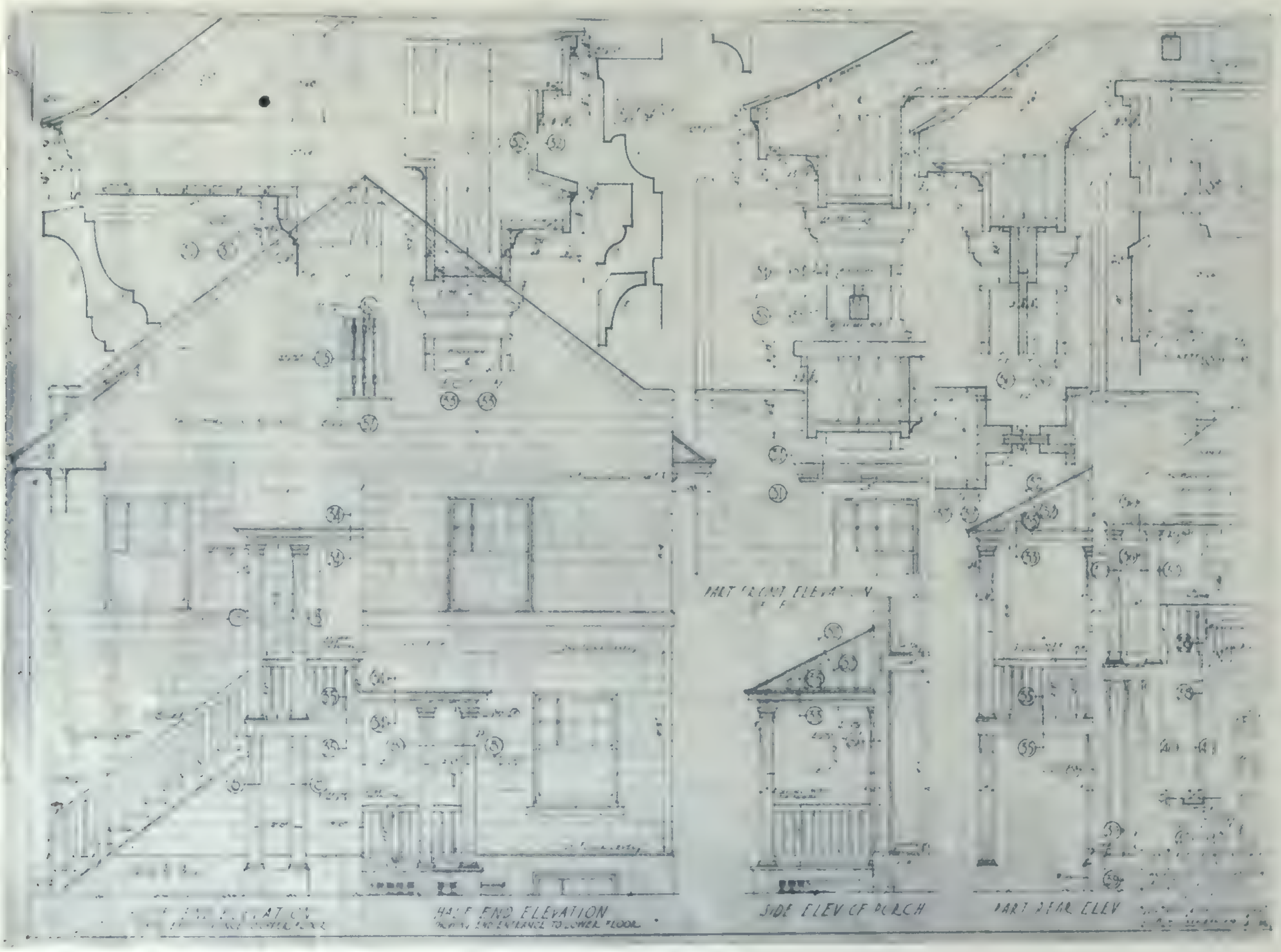
DETAILS OF TYPE T. 4, TWO FAMILY DWELLING, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.

The development of the courts in front of the houses provides for two twenty (20) feet paved streets at either side of the grass or play area, with concrete curb and four (4) feet cement sidewalks and suitable approaches to each home.

The street lighting has been arranged by means of underground conduit, so that no poles obstruct or disfigure the general appearance of the Courts.

The buildings containing four dwellings are of six separate types, varying as to plan and accommodation. In each of the plans the middle dwellings show five rooms and a bathroom, and the end dwellings six rooms and a bathroom. Where only two rooms are obtainable on the first floor, as in the middle apartments, a kitchenette has been provided by partly screening off a portion of the dining-room and kitchen and placing in the alcove the service fixtures, such as range, sink and domestic hot water heater. This leaves a large part of the room quite free for use as a dining-room.

The six types of buildings containing four dwellings each, differ from each other as to exterior treatment, both in design and in the use of materials, the variation being obtained principally in the study of a variety of roof treatment and a combined use of hydro-stone, stucco and half-timber. In this way it was found possible to have, with a few variations in plan, twenty-four dwellings, each one differing from the other sufficiently to give a certain individuality.



DETAILS OF TYPES F.^{2} 1, F.^{2} 2, DETACHED DWELLINGS, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.

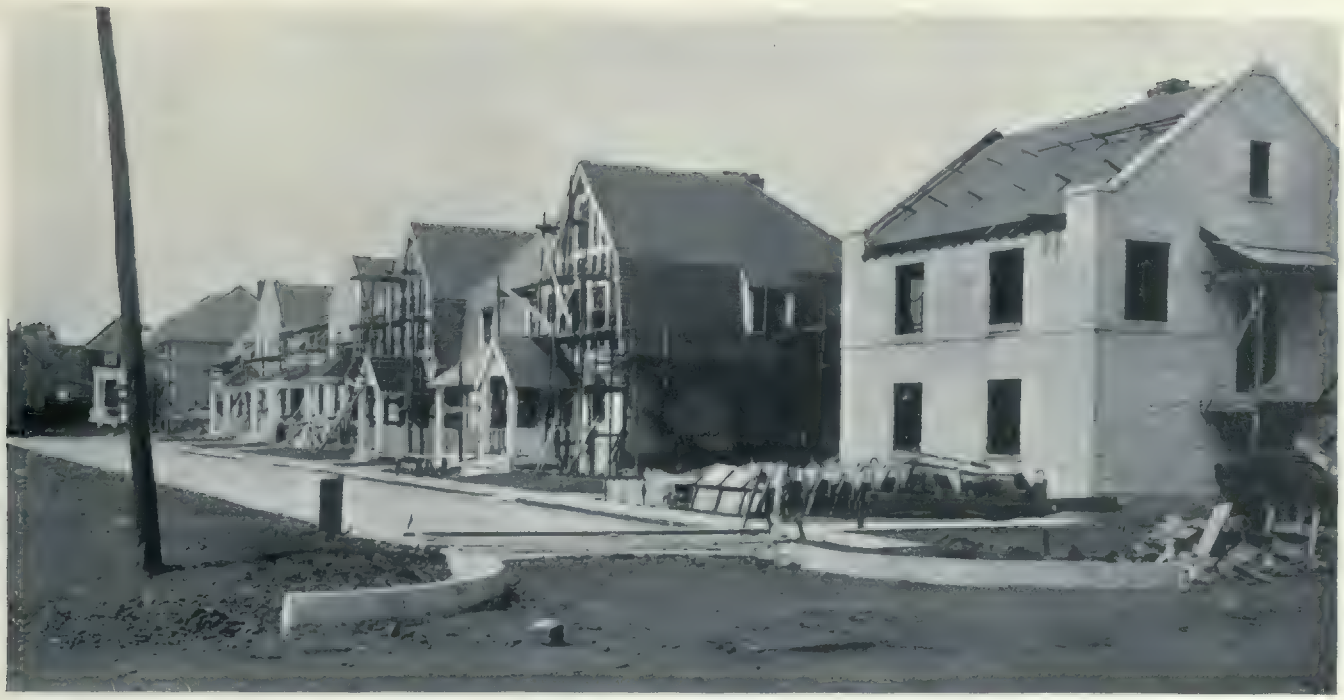
In this particular group of housing of 326 dwellings in all, there are 37 buildings containing four dwellings each, the remainder of the development being composed of buildings containing six families and some buildings containing two dwellings each. The buildings containing six apartments each are of five different types and in plan are much the same as the four family types. The elevations are, however, quite different and in some instances the plans have been reversed in order to give an even greater variety of architectural treatment.

Each dwelling is provided with a liberal front entrance porch, of sufficient size to be used as a covered verandah and is raised approximately eighteen (18) inches above the finished grades. Covered service galleries of six (6) feet in depth are also provided in the rear of each dwelling, opening off the kitchen in each instance and partially forming the roof to basement entrance.

Each plan shows a vestibule, which was found necessary, due to the Halifax climate, and in every case a coat closet adjacent to the entrance hall. One family bedroom and two smaller bedrooms are provided in each of the five and six-room houses, and clothes closets of a minimum depth of twenty-two (22) inches, open off all bedrooms, with the exception of a limited number of the middle apartments.

Each dwelling is provided with electric light and full plumbing, including completely equipped bathroom and kitchen, with laundry trays in basement. There is also a separate outside entrance to the basement, the basement being constructed in concrete and having finished cement floors.

Scattered throughout the "Group Development" there are thirty-two buildings of the "Flat Type," each containing two self-contained apartments, one above the other, each with



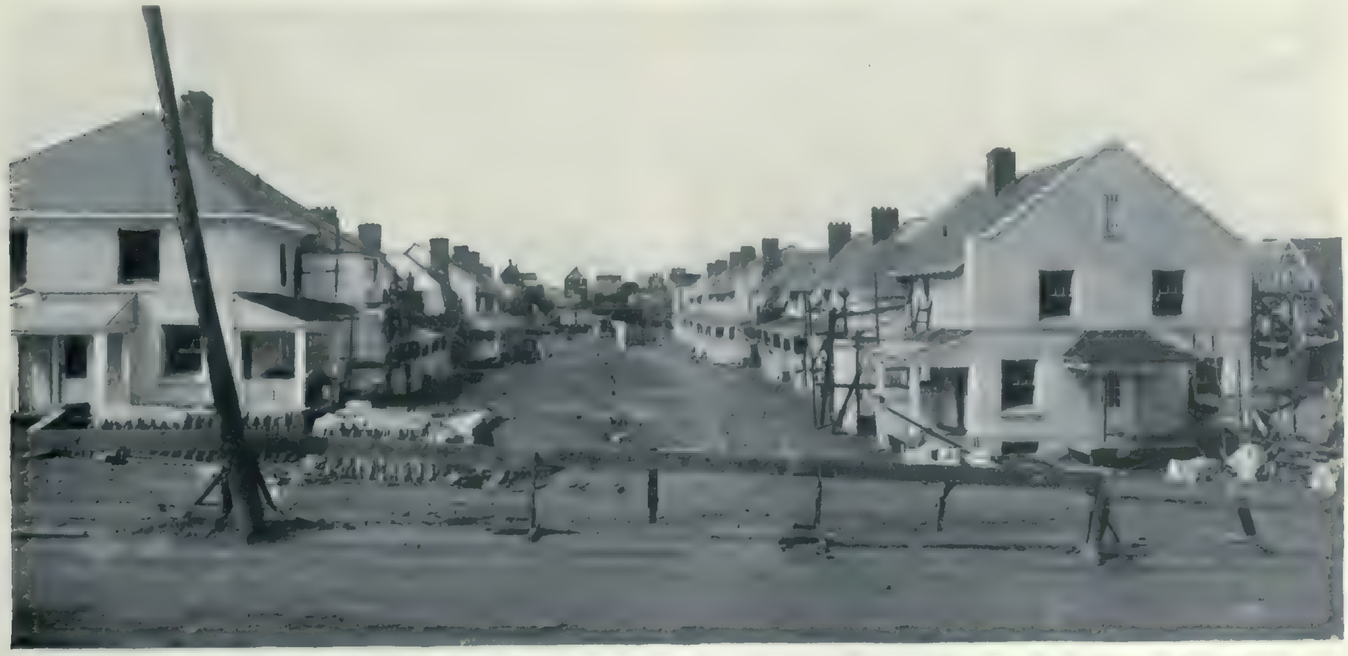
PROGRESS VIEW, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.

its individual entrance on opposite sides of the building. These buildings are of three different arrangements as to plan and elevation, and range in accommodation from five to six and seven rooms, with bathroom.

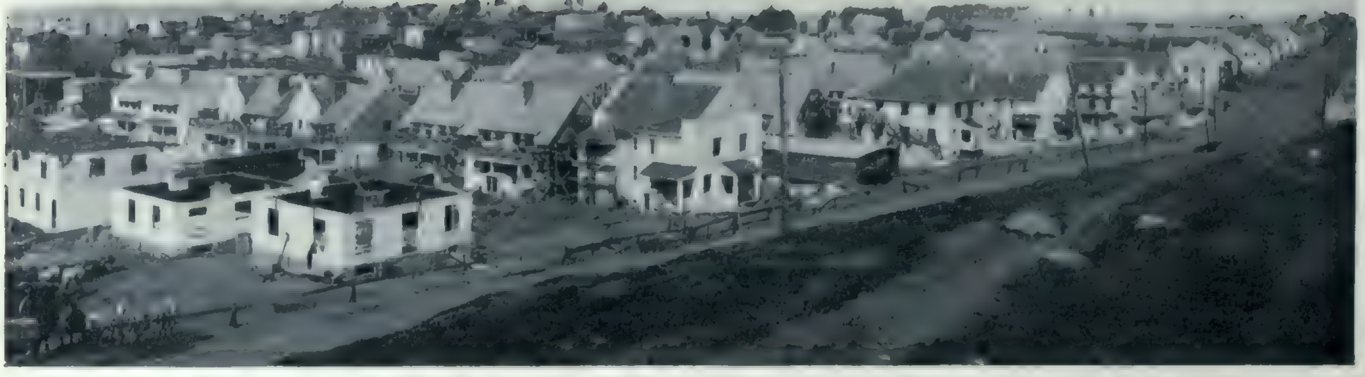
After considering carefully the various local materials available for use in the construction of the buildings, frame construction with either dropsiding or shingle was found to be most economical and the next cheapest was found to be a form of pre-cast concrete block, known to the trade as hydro-stone, the third — stucco on frame, and the most expensive—brick or concrete formed in place.

As a permanent and fireproof material was desired, it was decided to make use of ''hydro-stone'' and to manufacture this block at a plant built for the purpose by the Commission at South Eastern Passage, Nova Scotia, where a plentiful supply of clean gravel and sand was available at low cost.

It was also decided to roof the buildings with slate, but to construct the interior frame, floors and partitions of wood, with finished walls of hard plaster. All interior woodwork is of British Columbia fir, with natural varnish finish, and the finished floors throughout are edge grain fir. The exterior and party walls of all buildings are of hydro-stone and foundations of mass concrete. Where the concrete blocks are ex-



COURT SCHEME NEARING COMPLETION, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.

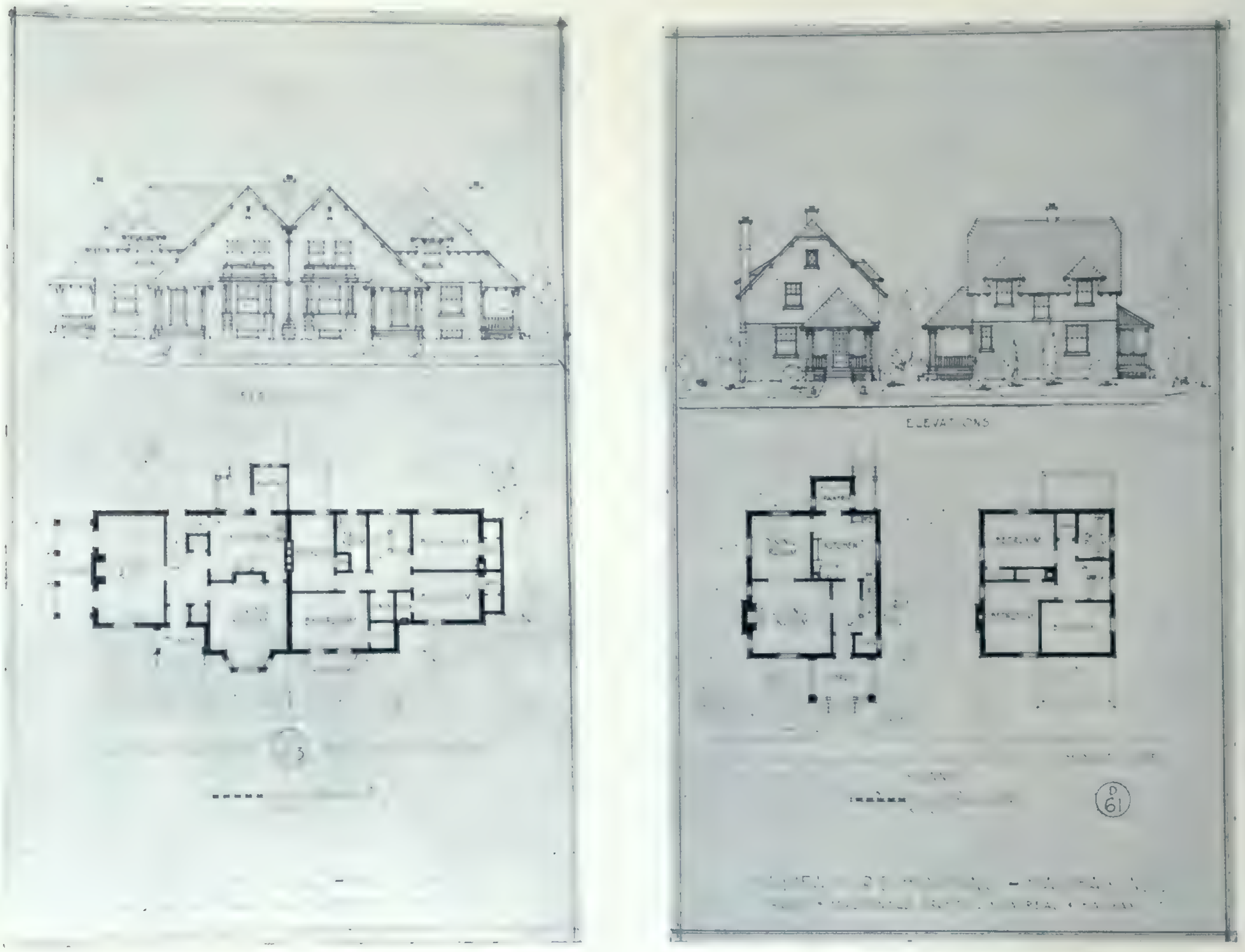


GENERAL PROGRESS VIEW OF DWELLINGS IN COURSE OF ERECTION, RE-DEVELOPMENT, HALIFAX, N. S.

posed, a faced block is used, which is constructed of crushed granite, giving a mottled granite effect. Where stucco finish is used, the stucco is applied to the rough concrete block.

Frame Dwellings:—Several tracts of land having been acquired by the Commission, seventy (70) self-contained frame dwellings, varying in size from 21 ft. x 27 ft. to 25 ft. x 33 ft., were constructed simultaneously with the "Group Development" throughout the unrestricted part of the devastated area, these buildings being completed and occupied in the course of five months' time.

Individual Housing:—In addition to the



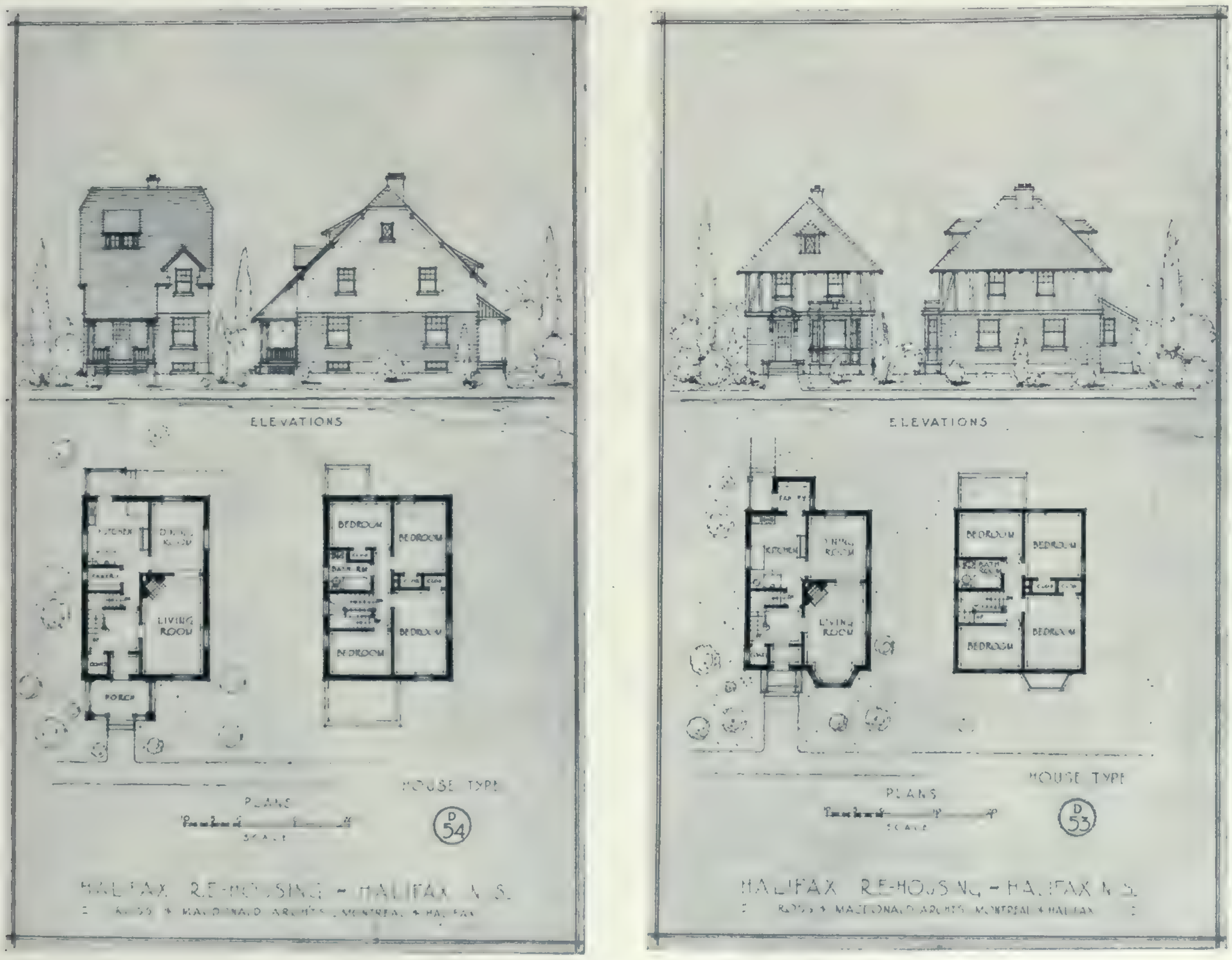
TYPES OF DETACHED AND TWO-FAMILY DWELLINGS, RE-HOUSING DEVELOPMENT,

FRAME DWELLINGS, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.

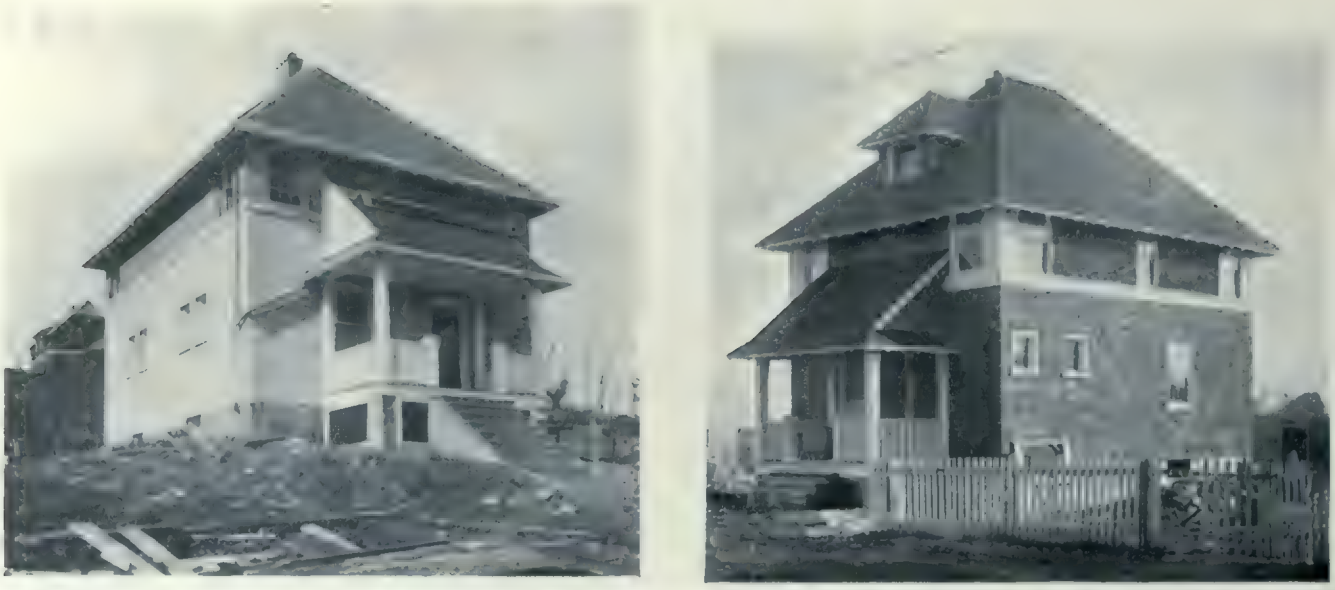
"Group" and "Frame" Developments, one hundred and ten (110) homes have been built, scattered throughout the area, designed to meet the individual need in each case, and contracts covering the construction of one hundred and fifty (150) homes in addition to those already completed are being proceeded with in an energetic way. These homes vary in size, accommodation and cost in relation to each individual need and the size of house owned prior to the disaster. The individual homes are constructed of hydro-stone, stucco and wood.

Comparative Costs

For purposes of comparative cost, the local material and labor market were carefully studied and estimates prepared (using varying types of construction) of a detached two-flat house, having four rooms and bath on each floor, with outside dimensions 28 ft. 0 in. x 29 ft. 0 in.,

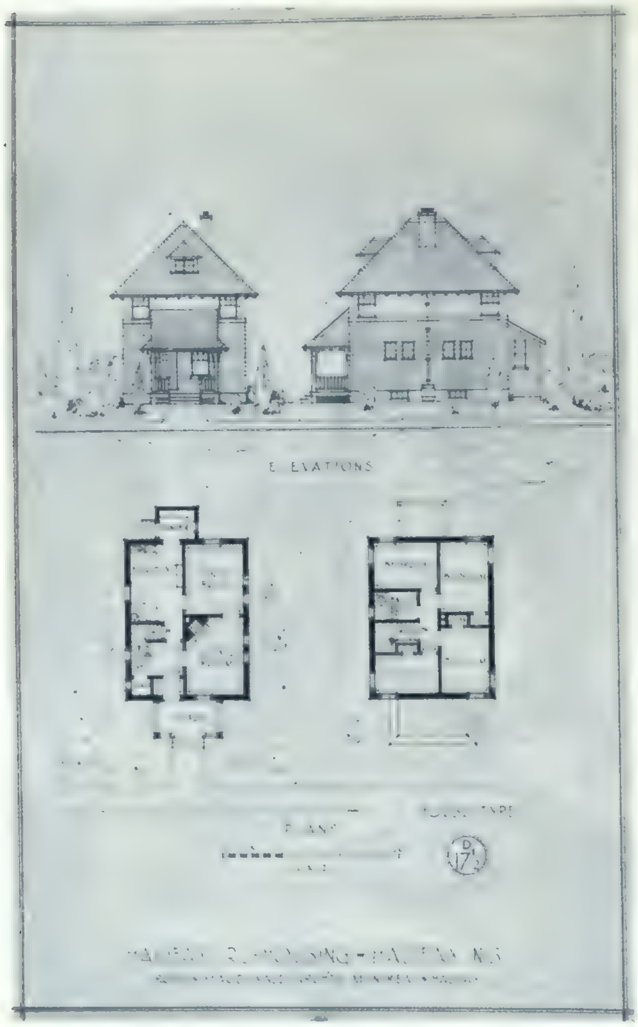


TYPES OF SEVEN-ROOM DWELLINGS, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.



TYPES OF SIX-ROOM DWELLING, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.

two full stories in height. Each type of con struction investigated is indicated in the following table in order of cost, beginning with the lowest. Since all interior finish, such as lath and plaster, paint, finished woodwork, floors, etc., is applicable to each type and therefore practically unchanged as regards cost, consideration for comparative purposes has been limited to the several forms of wall construction only.



ELEVATIONS AND PLANS OF ABOVE HOUSES.

Considering the lowest priced construction as 100 per cent., the comparative costs were determined as follows:

Frame Sheathing with Shingle and Stain

No. 1:—Exterior walls, 2 x 4 spruce studs, sheather on the outside with ⅞ in. tongued and grooved spruce, covere dwith one layer of 1-ply prepared roofing, and shingled with No. 1 clear shingles, dipped and stained with creosote stain, 100 per cent.

Frame Sheathing with Dropsiding, Painted

No. 2:—Construction similar to No. 1, replacing shingles with spruce dropsiding painted three coats of lead and oil paint, 101.2 per cent.

Concrete Pre-cast Block

No. 3:—Exterior walls constructed of two lug concrete blocks set in cement mortar, 103 per cent.

Frame Sheathing, Bishopric Board and Cement Stucco

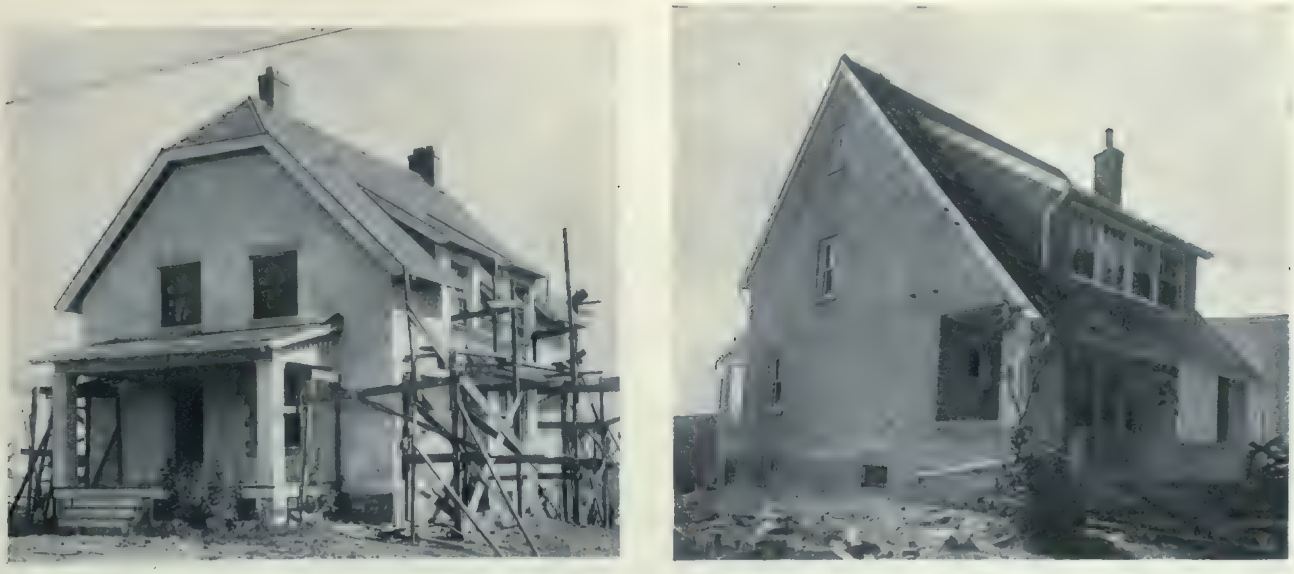
No. 4:—Exterior walls, 2 x 4 spruce studs, sheathed on outside with ⅞ in. tongued and grooved spruce, Bishopric stucco board, and finished with cement stucco, 104.2 per cent.

Frame Sheathing, Metal Furring, Lath and Cement Stucco

No. 5:—Exterior walls 2 x 4 spruce studs, sheathed on outside with ⅞ in. tongued and grooved spruce, covered with one layer of 1-ply roofing, furred with 1x2 furring, finished with metal lath and cement stucco, 105.6 per cent.

Brick Veneer

No. 6:—Exterior walls 2 x 4 spruce studs, sheathed with ⅞ in. tongued and grooved spruce



HYDRO-STONE CONSTRUCTION, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.

sheathing, covered with one layer of 1-ply roofing and veneered with brick, 106.9 per cent.

Solid Brick

No. 7:—Exterior walls of brick, two bricks of thickness, 108.8 per cent.

Monolith Concrete

No. 8:—Exterior wall poured concrete, 8 in. in thickness, rubbed to an even surface on outside face, 116. per cent.

It was found from actual comparison of cost after several months of operation of the hydro-stone plant, that the difference in cost between frame building with shingle, and hydro-stone, was five per cent. (5%) instead of three per cent. cent (3%) as estimated, this increased cost being largely due to transportation costs from the plant to the works and reduction in the estimated output of the plant, due to labor difficulties.

Hydro-stone Material

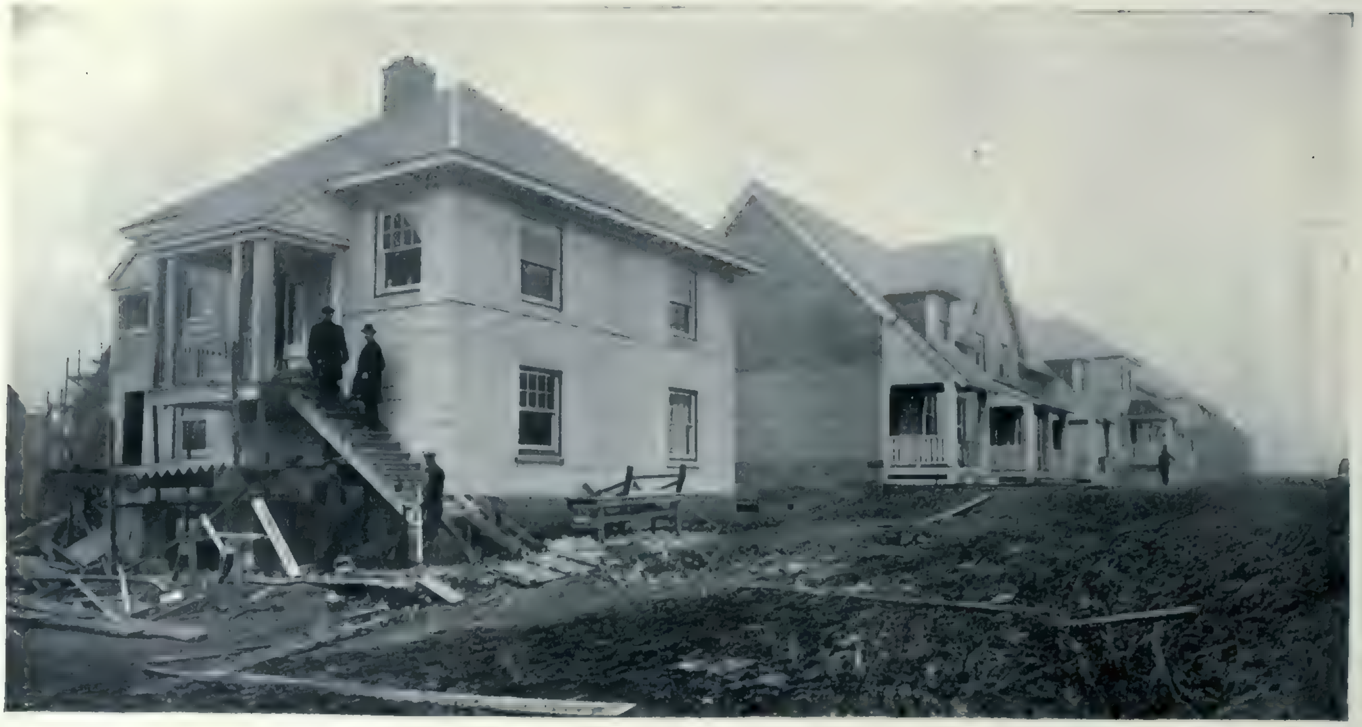
Hydro-stone, the material decided upon for the exterior of the houses, consists of a mixture of concrete, composed of gravel, crushed stone, sand and Portland cement, with sufficient water to crystallize the cement thoroughly; moulded under heavy pressure into the form of building units, and then cured in steam or rooms kept moist to prevent rapid evaporation.

The heavy pressure admits of the use of a sufficiently wet mix to form a high grade concrete, and the system of moulding admits of facing with crushed granite, marble, mica-spar or colored sands.

The block is nine inches (9 in.) by twenty-four inches (24 in.) on the face and is built into the wall either as a two-piece wall or as one piece. The two-piece wall comprises "T" shaped units, laid up in header and stretcher bond, breaking joints alternately back and front. The wall has continuous horizontal and vertical air spaces throughout. The inside and outside walls having no direct contact, forms a wall thoroughly insulated against heat, moisture and frost.

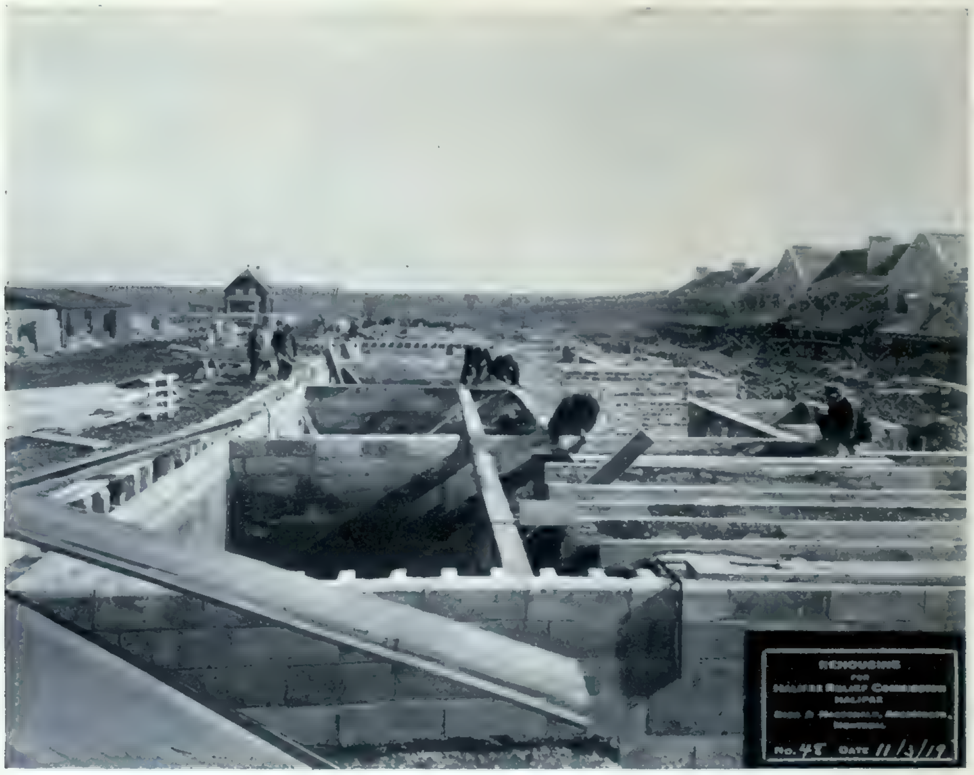
The one-piece wall is well adapted for small buildings or residential work, and this form of

DETACHED HOUSES OF FRAME CONSTRUCTION, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.



ROW OF HYDRO-STONE HOUSES WITH DWELLING CONTAINING TWO FOUR-ROOM APARTMENTS IN FOREGROUND, RE-HOUSING DEVELOPMENT, HALIFAX, N. S.

construction has been adopted in the group development, with the use of a bishopric board on the inside of all exterior walls. The blocks have two webs projecting from the back, spaced on 12-in. centres, and are laid up so as to break joints and form a strong, self-sustaining wall, ranging from 5 to 12 in. in thickness. Furring strips are fastened to the ends of the webs by a simple clip laid in the joint. Any form of lath is nailed to the furring strips and plastered in the usual manner.



VIEW SHOWING WALL CONSTRUCTION OF HYDRO-STONE HOUSES.

The hydro-stone machines are operated in the form of a press, estimated to exert a pressure of some 150,000 pounds against the face of the block. The plant was equipped with five machines, with a total output covering from 3,500 to 4,000 blocks per day. The pressure against the face of the block, while in the mould, compacts the concrete, squeezes out excess water and fills up the voids, forming a block with a dense face and square, sharp edges, which is immediately removed from the mould.

The concrete mixture used is a comparatively wet mix, the proportions being determined after careful experiments with the sand and stone available. In the manufacture of face blocks, white cement was used with white sand in order to obtain the full effect of the crushed granite. The facing material is filled in to a depth of ⅜ in. on top of the ordinary concrete, the pressure applied at once, thus securing a thorough bond between the facing and the body of the block. When washed the blocks are removed to a steam room where they are cured (approximately 48 hours), then placed in the storage yard for shipment to the works.

On account of the large size of the blocks, nine inches by twenty-four inches (9x24 in.) they are laid up very quickly and remarkable progress has been made, a small number of masons being able to handle the output of the plant as fast as it can be delivered to the building.

Record of Progress

In the face of war conditions which made it exceedingly difficult to obtain anything like adequate labor or the materials required in the reconstruction of the devastated area, the Halifax Relief Commission have practically rebuilt the northern section of the City of Halifax in the remarkably short space of two years. Through the active efforts of the late Col. Robert S. Low and latterly those of Mr. George H. Archibald, of the firm of Messrs. Archibald & Holmes, Contractors, Toronto, the entire work of temporary relief shelters and the repair of some eight thousand homes was entirely completed eight months subsequent to the disaster.

Great as the effort of the Halifax Relief Commission has been, and marvellous the results obtained in this wonderfully short period, there still remains, however, much to be done. Further improvements are contemplated in the development of what is known as Richmond Slope, between Gottingen Street and Halifax Harbor, representing in almost every instance houses for the individual owners suffering loss within this area. Work is rapidly nearing completion in this section on many buildings of a public character, such as schools, churches, convents and other institutions of like nature. The architects have given special attention to the planning of the development as a whole. The houses have been studied in groups in relation to the topography and also with the idea of working out a harmonious grouping and color scheme. Instead of the usual development of long rows of uninteresting houses, there are diagonal and diverging streets, with effectively picturesque homes, giving pleasant vistas and an interesting architectural treatment of the whole. This, with the planting of trees and shrubs and the seeding of the park and playground areas—landscape features so often overlooked—will add greatly to the desirability of this section of the city as an artistic community development of homes at modern cost, and it is to be hoped will do much to soften and obliterate the horrors of the tragedy of December, 1917, and that Halifax will look forward with confidence to becoming a better and greater city—ranking foremost among the big cities of the Dominion.

Construction Cost Reduced

Examples of the economic advantages of using electricity are daily brought to notice, and are of special interest in Canada, where approximately 85 per cent. of the electric power is derived from water-power, and is, therefore, usually available at low rates.

The saving effected by electric operation in construction work is demonstrated in a recent article in "The Engineering News-Record." The plant referred to is for the construction of a nine-span concrete bridge in Ohio. Electric energy is supplied to some 13 motors, varying in size from five horse-power to sixty-five horse-power. These are used for such machines as the sawmill, belt conveyor, concrete mixers, derricks, pumps, pile driver, cableway and concrete hoist towers. The cableway is equipped with a sixty-five horse-power motor, the conveyor with a fifteen horse-power motor, while a mixer of one cubic yard capacity has a twenty horse-power motor. In determining the reduction in power costs by using electricity, it is stated that the work can be carried out with an average power bill of $450 monthly, while the single boiler plant which has to be used for a steam hammer costs $10 per day. If steam were used throughout, separate plants would be required for all machines, owing to their wide separation, and it is estimated that each would cost as much as the steam-hammer operations.—L. G. D., in "Conservation."

New Partnership Formed

The firm of Sharp & Brown, architects, practising at 18 Wellington Street East, Toronto, has been dissolved. Mr. J. H. Brown, who has been in Ottawa for some time past, is still occupied with his work there, and Mr. Andrew Sharp is continuing practice in association with Mr. Herbert Horner, who for the last fifteen years has been in the service of Messrs. Darling & Pearson, architects, both at Toronto and Winnipeg.

The new firm will be known as Sharp & Horner, architects, and are now located at their new offices, 73 King Street West.

A. Frank Wickson

Re-Elected President of the Royal Architectural Institute of Canada.

The R.A.I.C. and O.A.A. Joint Meeting

WITH the return of a large number of members who have been away on overseas service, the joint meeting of the Architectural Institute of Canada and the Ontario Association of Architects, held in Toronto on October 2nd, 3rd, and 4th, was of a character which in the words of President C. H. Acton Bond of the O.A.A., might aptly be termed a Victory Convention. With the renewal of its membership, it is felt that from now on the deliberations of the profession will result in the shaping of a policy which will deal effectively with such issues as have been the occasion of annual debate, besides bringing more recent questions up for immediate and definite consideration. It was generally voted the best meeting of the profession since before the war, consisting of a three days' programme of important addresses and discussions and including by far the most notable exhibition of architectural drawings and photographs ever displayed in Canada.

Following the reading of the minutes on the opening day which was devoted to the affairs of the Ontario Association, President Bond reviewed the work of the Council during the period of the war. He felt that the present time marked the beginning of great things for both the profession and the association. The architects and their assistants had played no small part in the world struggle and the association was proud of the many members who were on active service, at the same time sustaining a distinct loss in those who had made the supreme sacrifice, including the late Colonel Beckett and Colonel Stewart, the latter of whom was a member of the Council.

During the war the association had given active attention to the question of competition from alien architects, and had taken the matter up with the Canadian Manufacturers and the Toronto Builders Exchange with a view to memoralizing the Government, although no final action was taken.

Mr. Bond stated that in December, 1917, as representative of the association, he was sent at the request of Sir Clifford Sifton, of the Commission of Conservation, following the Halifax disaster, to confer with Mr. Thomas Adams in reference to the rebuilding of the city. Subsequently the Ontario Housing Commission had asked for the co-operation of the association in the working out of their scheme and a committee was appointed for that purpose.

An effort has also been made to secure a greater degree of protection for the profession through the Provincial Government, and both the Premier and Minister of Education had been interviewed with good results. Besides this three members of the association had been appointed as a War Memorial Committee to co-operate with the Ontario Society of Artists and other representative bodies for the purpose of giving free advice in reference to the erection of memorials with the object of seeing that they are in good taste and of benefit to the community.

MR. HERBERT E. MOORE,
Newly Elected President of the Ontario Association of Architects.

THE QUESTION OF COMPETITIONS.

At the conclusion of Mr. Bond's address, the Secretary and Treasurer reports were presented, and were followed by a strenuous debate in reference to members of the association entering competitions contrary to the code of ethics. The question resolved itself around recent school work both in Toronto and in other parts of the province. As the subject was one of great importance it was felt that there should be some expression as to a general policy with the object of impressing the public as to the status of the architect. It was useless to complain of Canadians employing foreign architects, if the members had not sufficient self-respect to live up to the rules of the association. In the British Isles no responsible public body could hold a competition, nor any important competition take place except under conditions approved by the Royal Institute of British Architects. This result was obtained only by a process of education covering a period of twenty years in gaining public approval. It was likewise necessary to have patience and faith and to go on educating the public here in Canada to obtain similar results. Further discussion raised the point as to whether the members who competed understood the code to be compulsory or advisory, and as to whether the committee was justified in insisting on a majority on the Board of Selection. It was pointed out that this was contrary to the attitude of the American Institute which was generally content to get an adviser.

A suggestion was made that the Council might well consider the advisability of a standing advertisement of the code in the newspapers, and that an effort should be made to educate public opinion so that it will understand that the architects are endeavoring to promote public welfare and will go into competitions only with that end in view.

The feeling of the meeting was that the lines should be drawn a little closer and that it should be thoroughly understood that any one who was a member of the association was not only expected to act according to the code, but that otherwise he would be subject to censure and dismissal.

PUBLICITY AND PROPAGANDA.

Co-related to the above discussion was the report on Publicity presented by Mr. J. Banigan, which recommended an active campaign of propaganda. Mr. Banigan stated that his committee had interviewed a number of newspaper editors and advertising agencies with the idea of finding out some means of directing public attention to the architect and his work, and the objects of the association to which he belongs. This investigation led to the discovery that there were various means by which this could be obtained, some expensive and others inexpensive except in time. It was found that there were a number of daily and weekly papers which were not only willing but anxious to publish well-prepared and illustrated articles dealing with the work of the profession on such subjects as "Why Employ an Architect," "Why Build Now," "The Ethics of an Architect," "The Work of an Architect," etc. Subjects of this character were of interest to the public. It was also found that certain booklets were published on these topics which were very suitable for distribution, and which could be given wide circulation by calling attention to them in paid advertisements. At a per capita expenditure of two and a half dollars a month on the part of the members, a fund would be available which would cover several of the principal cities whose newspapers circulate well out into the province, so that the subject of publicity could be worked out at a relatively small appropriation. The idea was to get before the public, not antagonistically, but in a pleasant educative manner, illustrating the advantages of the association, its code, it methods, what it has done, and what it intends to do, and the benefits of employing an architect. Such a campaign would also afford an opportunity for getting members, getting legislation, getting anything which any body of a hundred men could get if they were united and enthusiastically went after it.

Mr. Banigan's proposal met with enthusiastic approval and a fund was immediately started to carry out his suggestions. The opinion was that it would prove one of the most active and beneficial enterprises which the association had yet undertaken.

THE LEGAL STATUS OF TECHNICAL PROFESSIONS.

Another subject of special interest before the meeting was "The Legal Status of Technical Professions," which was discussed by Mr. J. P. Hynes and Mr. Harry Acres.

Both speakers cited the Illinois Act as a model on which legislation in this country could be drafted to determine the qualification of technical men and to protect their interest in the opportunities for practice which the state provides.

The status of the architect in the community, Mr. Hynes declared, was measured by the service he can render to the community. A comparison of the services rendered the community by the medical profession in the development of preventive medicine, culminating in the present system of the Government Health Department, and the services that architects and engineers can render in the matter of town planning and housing shows a striking parallel. Just as medical practitioners could make little progress individually in the matter of preventive medicine, so architects could make little progress individually in town planning. Medical health departments were made available to the community by means of legislation, and proper legislative measures are necessary in connection with housing and town planning before architects will be able to render the service they are capable of rendering along these lines.

"The legal status of the architect depends on his ability to reach that standard of reliability which warrants him being singled out as particularly capable of rendering to the community that service for which he is trained. In Ontario it is a striking fact that the practice of all professions other than technical ones have the practice of the province conserved for them. This permits all practitioners to have sufficient practice to develop to the full their ability and has established the fact that the standard of the professional men of this province is not less, and perhaps greater, than in many other communities. And it would seem only feasible and just that if the practice of the province should be conserved for men of the medical, legal and other professions, it should likewise be conserved for the men of the technical professions, so that the province may be supplied with trained men from its own technical institutions to handle its own technical problems."

The question was one, Mr. Hynes stated, which the association could not afford to overlook and one on which it was most desirable that there should be unanimity of opinion among the architects.

As the matter stood, the province suffered a direct economic loss in that it provided advantages for technical training which cost the Government twice as much as the individual, and then failed to conserve the opportunities for practice for those whom it has thus educated by throwing the field open to outside competition. The Government should be equally concerned with the development of its manhood resources as it is with any material resources, instead of limiting its interest to the training of technical men who have the most to do with the production of material resources and then giving them no further support.

Fourteen States up to the present time, as well as three or four of the provinces in Canada, have Registration Acts for architects, but none of them, according to Mr. Hynes, seemed equal in merit to that which Illinois presents. In Illinois the Government assumes the responsibility, and by its enactment it has established a Department of Education and Registration, having under its jurisdiction the administering of all examining boards in relation to the various technical professions.

REGISTRATION.

Mr. Ralph Shepard pointed out to the meeting that the Ontario Architects Act passed thirty years ago, gave the members of the association the right to use the title "registered." It was a perfectly good title which the association as a body has ignored, and he was in favor of it being made compulsory on the part of the association that all members call themselves "registered architects." According to the Act any one wrongly appropriating the title could be prosecuted.

Further opinion on this point was expressed by Mr. Munro Grier, K.C., legal adviser to the Council, to the effect that it would not be logical to approach the Government for additional consideration when the association had not made use of the things already granted.

PROMINENT SPEAKERS ADDRESS LUNCHEONS.

The luncheon on this and subsequent days of the meeting at the King Edward Hotel were largely attended and introduced as guests of the occasion Sir Edmund Walker and Mr. Munro Grier, K.C., who delivered addresses on "The Viewpoint of the Public with Regard to the Profession"; Sir Robert Falconer, President of Toronto University, and Brigadier-General Charles H. Mitchell, Dean of the School of Practical Science, who spoke of the University in relation to architectural development; and Prof. Percy E. Nobbs, who, with Mr. Herbert E. Moore, discussed the subject of War Memorials. At the final day's luncheon all members who had returned from active war service were made special guests of the occasion.

R. A. I. C. Meeting, October 3, 1919

With the Montreal convention last January as a precedent in meeting when one of the provincial bodies was in session, the R.A.I.C. held its annual assembly on the second day.

The following report of the honorary secretary, Mr. Alcide Chausse, reviewing the work of the Institute during the past year, was read and adopted:

REPORT OF THE HONORARY SECRETARY FOR 1919.

To the President, Officers and Members
of the Royal Architectural Institute of Canada.

Gentlemen:—

As an experiment, in January, 1919, the Eleventh General Annual Assembly of the Royal Architectural Institute of Canada, was held jointly, and at the same time, as the annual convention of the Province of Quebec Association of Architects, at Montreal, it proved very successful and brought to the various meetings of both the P.Q.A.A. and the R.A.I.C. very good attendance. The Architectural Exhibition held at the Arts Club during the Assembly was very interesting.

It is hoped that this year the joint meeting of the Ontario Association of Architects, and of the Royal Architectural Institute of Canada will be a success.

At the last General Annual Assembly the officers elected were as follows:—

Mr. A. Frank Wickson, Toronto, President; Mr. David R. Brown, Montreal, and Mr. W. G. Van Egmond, Regina, Vice-Presidents; Mr. Alcide Chausse, Montreal, Honorary Secretary; Mr. J. P. Hynes, Toronto, Honorary Treasurer.

The "pro rata" contribution of the provincial associations was fixed at two dollars ($2.00) per member.

In order to have a quorum at the meetings of the Council, it was decided to pay the actual traveling expenses of the President, the Honorary Secretary and the Honorary Treasurer; and the actual traveling expenses of the members of the Council, other than officers, up to and not exceeding twenty-five dollars ($25.00), upon presentation of a detailed statement of such traveling expenses.

It was decided that arrangements be made by the President with the publishers of "Construction" for the printing and mailing of the proceedings of the Montreal General Annual Assembly. This has been done and every member of the R.A.I.C. has received a copy of these proceedings with a letter from the President.

The Finance Committee appointed was composed of Messrs. J. P. Hynes, Victor D. Horsburgh and Ralph K. Shepard, and as pointed out by the Auditor that the Honorary Treasurer cannot act on the Finance Committee, Mr. J. P. Hynes resigned and Mr. R. B. McGiffin was appointed to replace him.

A special committee was appointed to consider a policy to be pursued by the Dominion Government in the erection of Government buildings throughout the country to insure their being creditable as to purpose, design and location. This committee has been requested to report at this assembly, it is composed as follows: Mr. Herbert Raine, chairman and Messrs.

Hugh Vallance, John S. Archibald, A. Beaugrand-Champagne and U. J. Asselin

Through the efforts of a member of this Council, (Mr. A. Graham Creighton) now residing in the Province of Nova Scotia, an association of architects has been formed in that province under the name of the "Nova Scotia Association of Architects" with Mr. R. A. Johnson as President and Mr. A. Graham Creighton as Secretary, it is proposed to have a Bill introduced at the fall meeting of the Provincial Legislature for incorporation.

We have received from the Committee on Competition of the American Institute of Architects a communication asking information concerning the history of architectural competitions in Canada, the methods under which competitions are conducted; the amount of compensation paid to competitors; their popularity with the public and with the profession, and, the present attitude of the R.A.I.C. toward the principles involved. Mr. David R. Brown and the President, Mr. A. Frank Wickson, were requested to reply to this communication.

At the suggestion of the President, Prof. P. E. Nobbs was appointed to the Central Dominion Advisory Committee on War Memorials.

The matter of the R.A.I.C. Medal is now in the hands of a special committee composed of Messrs. A. Frank Wickson and David R. Brown, and it is expected that a final report will be made very soon.

ALCIDE CHAUSSE,
Hon. Secretary.

Considerable discussion developed with reference to the report of the Committee appointed at a meeting of the Council held at Ottawa to deal with recommendations to be made to the Dominion Government, in regard to the erection of government buildings throughout the country so as to insure their being creditable as to purpose, design and location. This report was presented by Mr. Herbert Raine, chairman of the committee, and is as follows:

In accordance with the resolution of the last meeting of the Council held in Ottawa, a Committee was formed, made up as follows, Herbert Raine, Chairman; Hugh Vallance, John S. Archibald, A. Beaugrand-Champagne, U. J. Asselin, "to consider a policy to be pursued by the Dominion Government in the erection of Government Buildings throughout the country to insure their being creditable as to purpose, design and location."

This Committee met on the 19th inst., all members being present. There was unanimity of opinion that the Institute, before making any recommendations to the Government, should be reasonably certain that they would be accepted in the spirit in which they were made, otherwise we would be laying ourselves open to a rebuff and loss of prestige.

The Committee doubted very much that any suggestion they could offer, unless it clearly showed a resulting economy, would be acceptable to the Government, which at the present time is attempting to make every retrenchment possible. We are satisfied that the Architectural Department is run much more effectively with a view to economy than would result from any suggestion we might make and we feel that this is the essential thing at the moment. We feel that the Department of Public Works is doing good work under very unfavorable circumstances, and that any recommendations should be to help the Department, with a view to obtaining further funds only that it may offer such remuneration as will attract the best designing talent in the profession.

In case of purely monumental buildings, where everybody has a right to demand that only the best talent be employed, we think it might be well for the profession to be consulted through the Institute or the Provincial Associations as to the best methods of attaining the desired results.

In conclusion, we desire to say that a question of this kind calls for discussion from representatives of all the Associations, and should not have been left to those of one, viz., the P.Q.A.A.

HERBERT RAINE,
Chairman Committee.

President Wickson suggested that in view of the nature of the report a resolution from the Royal Institute to the Minister in charge, not of an abstract kind, but a resolution expressing the wish that the Government would take every possible means of increasing the efficiency of the staff, might help the Chief Architect of the Public Works Department.

It was pointed out by Mr. J. P. Hynes that there were other national societies whose objects were somewhat akin to those of the architects, that were recently considered by the Government, particularly the Royal Academy. Mr. Hynes felt that if the institute could form some policy in regard to art and architecture, the cooperation of these societies would be invaluable, and take away the idea that the architects were actuated by selfish motives. The Royal Society, which was literary and scientific, was in a measure similar to the institute, and should be interested in the development of art and architecture in this country. The Royal Academy was established for that purpose and the Institute should co-operate with such bodies and get a platform before the public that will be seriously considered by all the various national societies. Something along these lines should be considered before undertaking any negotiations directly with the Minister of Public Works.

The meeting did not in any way construe that the Government was not administering the Public Works Department properly as regards the erection of buildings, but simply expressed disapproval of the fact that much work that has been carried out was not in accordance with the best standards of design. The expression was that all important public buildings should be open to the best talent in the country, the same as in France, and that in view of the fact that the department found it necessary to go outside to get consulting engineers, why would it not prove a like advantage to employ the services of consulting architects.

The Government was criticized with reference to its new office building at Ottawa, which is now in course of completion, on the ground that it was the first public building erected after the official plan for Ottawa was approved, and was a direct departure from that plan, instead of being an integral part of it, the building being thrown out as an isolated unit in the heart of the city. The Ottawa plan cost the city and Government $70,000, and yet those who prepared the plan and who were in a position to give advice, were in no way consulted.

As a result of the discussion the matter was referred to the committee on resolutions, with instructions to report on whether the Institute should deal directly with the Minister of Public Works or appoint a committee to formulate a policy towards approaching the Government.

ARCHITECTURAL EDUCATION

Two very excellent papers on architectural education—one by Professor Ramsay Traquair, of McGill University, which appears elsewhere in this number, and the other by Mr. W. D. Cromarty, of Ottawa, which owing to lack of space cannot be dealt with until the November issue, were read at the meeting and received with great interest.

There was indeed much in the views subsequently expressed to indicate that the subject of education was going through a process of progressive thinking.

Mr. J. P. Hynes stated that for some little time the president of Toronto University had been considering the idea of a six years' course with a double degree, and that architecture would be one of the favorite studies which this course would introduce. It would likely comprise a two years' art course, two years partly arts and partly architecture, and the last two architecture only. The student taking the six-year course would receive the degrees of both Bachelor of Arts and Bachelor of Architecture.

A plea was made by Mr. Charles E. Cobb for the better training of the man who cannot possibly go to college. He referred to the recently formed Draughtsmen's Association, stating that he hoped architects would take some interest in the new organization, which represented a large number of young men on whom the architects had to depend to do a large portion of their important work. In his own office, for instance, there were three young men who have not been able to secure a college education for very good and sufficient reasons. They were men of capability and were holding up their end splendidly in the work. In his opinion it was desirable that some arrangement should be arrived at whereby such men may have some advantages in the matter of improving their understanding in design, and he felt that some room or headquarters should be provided where they can, to some extent, begin what has been very satisfactorily tried out in New York, the Atelier system of training draughtsmen. "The movement," said Mr. Cobb, "should be supported for the architects' own mercenary ends. If the architects are to produce good buildings, it was necessary for them to have competent assistants and these were none too plentiful."

Mr. A. F. Wickson stated that the Ontario Association would be only too glad to render any assistance along the lines suggested, although he would be sorry to think that the Draughtsmen's Union would in any way have the tendency to impress young men that it was not necessary to have a college education to become an architect. He further recommended that the incoming Council be requested to take up the question.

The need of business education as a part of architectural work was emphasized by Mr. V. D. Horsburgh, who stated that among assistants generally there was a tendency to despise business, and for this reason were hampering their own future. There was also, as regards scholarship, he said, opportunity for the planting of seed in fertile soil. A committee on publicity could help in this direction by informing the public that the Institute required several donations amounting to $20,000 to establish $1,000 scholarships. Far greater sums had been raised from wealthy men for smaller ends.

Professor Traquair said that he did not believe that it was possible to teach the business of an architect's work in the college, nor did he believe that it was expected. Business experience was to be gained by contact with life in the office, and it was therefore necessary to make the office an integral part of the whole course of training. The colleges themselves, he said, could not turn out trained architects, nor could they be trained entirely in the offices. It was necessary to combine the two, and he was certain that the colleges were only too anxious to establish the closest personal connection with the profession. It was his opinion that every teacher in an architectural school should have been, or should be, a practicing architect as well as a teacher. Not that it was necessary that he should have a large practice, but that he should be experienced as regards actual modern work.

As regards the non-college student, Professor Traquair felt that he was just as valuable as the college student, only that he was getting his education in a slightly different way. He cited the case of a draughtsmen's society or union in England, and what had been achieved through the efforts of such a union and the assistance which it had received from the senior societies.

As for the Beaux Art system, he was glad to note that many of the colleges in the States were throwing it off. It was a most admirable system for France, but the conditions here were different both as regards the position of the architect and his work. It was necessary for Canada to mould its own system, and the system which has been devised did not include that large amount of technical draughting which is rather characteristic of some schools. The real Beaux Art course was one in which men had to spend from ten to twelve years in place of four or five years, which the college course provides. The college course, Professor Traquair said, was hardly more than the introduction to it, and that much work, if done at all, would have to be done after the student left college. He felt that a copy of anything was bad. While acknowledging all the virtues of the Beaux Art course in France, it was well at the same time to acknowledge that, like the Corinthian capital, however beautiful it may have been to the Romans, it is a question as to how beautiful it is when copied in Toronto or Quebec.

In his opinion it was perfectly possible for the universities to give partial courses, and to arrange many of the lectures and studies so that a draughtsman could avail himself of a considerable part of the course, by partial attendance at the University at hours that would not altogether interfere with his office work. That is to say an hour in the morning from 9 to 10, when it would be possible for him to arrange with his senior to be in attendance.

JOINT MEETING OF THE R.A.I.C. AND O.A.A.,

The third day of the meeting resolved itself into a joint meeting of the Institute and the Ontario Association.

Very excellent addresses were delivered by Mr. Naulon Cauchon, Chairman of the Ottawa branch of the Town Planning Institute of Canada and Mr. Thomas Adams, Town Planning Adviser to the Commission of Conservation on "The Architectural Scope in Town Planning;" and by Mr. James Govan, Architect of the Provincial Secretary's Department of the Ontario Government, who spoke in relation to the problem with which the Government has had to deal under the Ontario Housing Act. These addresses were exceptionally well presented and the interest of the meeting was evidenced in the discussion which ensued.

Separate council meeting and routine business occupied the greater portion of the afternoon period.

The report of the Committee on Resolutions was as folows:

O. A. A. RESOLUTIONS.

Resolution No. 1: Publicity Committee:

Resolved: That a committee of three be appointed, with power to add to its numbers, and subject to the Council, to be known as the Publicity Committee.

It shall be the purpose of the Publicity Committee to put the Ontario Association of Architects favorably before the public.

Be it further resolved that this Committee be authorized to collect by voluntary subscription for publicity purposes a sum not less than $2,000.

And be it also further resolved that this Convention approves of the purposes of the Publicity Committee and urges all the members to subscribe.

Resolution No. 2: Amendment to Articles 32 and 33 of By-Laws:

Article 32 shall read: When the application of members who have resigned or have failed to retain their membership, shall be approved of by Council, the applicant shall pay a fee of $25, which shall include the annual fee for the year current at the time of the resumption of membership.

Article 33 shall read: When the application of associate members who have resigned or have failed to retain their membership shall be approved of by Council, the applicant shall pay a fee of $10, which shall include the annual fee for the year current at the time of the resumption of their membership as associates.

Resolution No. 3: Competitions:

Resolved: That the Ontario Association of Architects deprecates competitions except in public and civic work.

Members entering competitions disapproved of by the Council shall be subject to censure or to erasure from the Architects' Register, or both.

The Council shall not approve of a competition without the following requirement, that at least one Assessor be a Registered Architect nominated or approved of by the Council.

That the adjusting of further details of the Code governing competitions to harmonize with the foregoing, be left to the Competition Committee acting under the supervision of the Council.

Resolution No. 4: Registered Architect:

Whereas the members of this Association have the right, under the Ontario Architects' Act of 1890, to practice under the title of Registered Architect.

And Whereas the technical men of the Province are seeking legislation regulating the technical professions in this province, it is the strong recommendation of this Convention, and its legal adviser, that the members use the title of Registered Architect, thereby making operative the privileges granted them by the Ontario Architects' Act.

Thereby be it resolved that after the first of November, 1919, all members of the Ontario Association of Architects are urged to practice under the title of Registered Architect as provided by the Ontario Architects' Act, and to use this title on all stationery and on other suitable occasions.

Resolution No. 5: Associate Membership:

In recognition of the services rendered by Architectural students who served in some theatre of the Great War, the Council may, at its discretion, grant such men associate membership—

Provided however, that they shall have satisfactorily completed at least two years of their Architectural Course at the University, and the one year's practical experience now required by the by-laws.

R. A. I. C. RESOLUTIONS.

Motion 1.—This Committee recommends that the R. A. I. C. take up with the new Minister of Public Works in a friendly way the question of submitting the design of monumental and important public buildings, etc. to properly conducted competitions among the architects of the affiliated associations composing this body.

Motion 2.—This Committee recommends that the following resolution be forwarded to the Government by the R. A. I. C.

RESOLVED—That whereas it is contemplated to erect monuments to the fallen Canadian soldiers at various points on the battle-fields of Europe, the Government of Canada is hereby urged to see that the designing of these memorials is executed by Canadian Architects, and that the sculpture and painting in connection therewith be placed in the hands of Canadian sculptors and painters.

Motion 3.—Increase in tariff on imported plans.

This Committee recommends that the question be carried over for further discussion.

O.A.A. ARCHITECTURAL EXHIBIT.

The exhibit of architectural drawings and photographs in connection with the convention, was undoubetrly the best of its kind that has ever been seen in this country, occupying the three galleries and entire corridor space of the Toronto Art Museum. A special feature was a marvelously interesting one of two hundred and fifty photographs of French Cathedrals, made prior to the war, including such historic edifices as Rheims and Amiens which suffered so severely as the result of the German bombardment. The photographs afforded a very complete realization of the golden age of church architecture in all its detail and inimitable variety, and the dimensions of the picture were on a scale which gave a true suggestion of the grandeur of the originals. This collection is owned by the Brooklyn Museum, and the loan was obtained through the good offices of Prof. Goodyear. The exhibit of work by Canadian architects also served to show the high standard of excellence which has been attained by designers in this country in recent years. On the opening night, which was largely attended, and which proved a decidedly social event, Mrs. H. Dunnington Grubb gave a most interesting address on landscape architecture, tracing its development from the early Egyptian gardens down to landscape work in its modern form.

Other features of the convention was an enjoyable evening at the Toronto Royal Museum as the guest of Professor Currelly, and a motor trip about the city ending with an inspection of Hart House at the Toronto University, where the members and visitors were personally conducted through the premises by Mr. Henry Sproatt of the firm of Sproatt and Rolph, the architects.

ELECTION OF OFFICERS

The election of officers resulted as follows:

R. A. I. C.

President, A. Frank Wickson, Toronto;vice-presidents, David R. Brown, Montreal; L. H. Jordan, Winnipeg, Man.:; honorary treasurer, Alcide Chausse, Montreal, Que.; honorary treasurer, C. S. Cobb, Toronto, Ont.

Council: J. P. Ouellet, Quebec, Que.; Jos. Perrault, Montreal; Ramsay Traquair, Montreal; M. W. Sharon, Regina; W. G. Van Egmond, Regina; David Webster, Saskatoon; A. Melville, Winnipeg; R. B. Pratt, Winnipeg; J. M. Watt, London; C. H. Acton Bond, Toronto; H. E. Moore, Toronto; G. H. MacDonald, Calgary; W. D. Cromarty, Edmonton; S. M. Eveleigh, Vancouver; A. S. Mercer, Vancouver.

The next General Annual Assembly of the Royal Architectural Institute of Canada will be held at Ottawa, Ont.

ONTARIO ASSOCIATION OF ARCHITECTS

President, Herbert E. Moore; first vice-president, R. K. Shepard; second vice-president, John M. Watt; treasurer, Gordon M. West; registrar, J. P. Hynes.

Council: W. R. Gregg, Chas. E. Langley, Lieut.-Col. R. D. McGiffin, Lieut.-Col. Colborne P. Meredith, A. Frank Wickson, R. B. Wolsey.

Auditors: J. Wilson Gray, C. H. Bishop.

The Education of the Architect

Address delivered by Professor Ramsey Traquair before the R.A.I.C.

IN recent years the education of the architect has undergone that change which, many years ago, took place in the other professions; it has, in part, been transferred from the office, the place of work, to the college, the place of learning. This change was inevitable. Something no doubt was lost, yet more was gained, and if we can mold our system wisely, still more is to be gained in the future.

Most of us were educated under the old system of pupillage or apprenticeship. We know what good results it often had when the pupil was enthusiastic and the master sympathetic. The pupil's studies were always directly related to building in actual progress and he was accustomed from the beginning to think of architecture as building rather than as a learned mystery. But we know also that in too many cases the education of the pupils was left to an already overworked head assistant, and that the years of apprenticeship were wasted on office routine. The pupil was kept doing what he could do rather than encouraged to learn something which he could not do.

Of recent years the amount of knowledge required of an architect has largely increased. New materials have come into use, and new methods of construction. Much of the more scientific work is done by consultants outside the office and the draughtsman has little opportunity of finding out how the consultant engineer arrives at his results. Yet these results should modify deeply the planning, the design and proportion of the building.

To gain this extra knowledge the old-time pupil used to attend evening and morning classes at the technical schools. His working day was often from eight in the morning to ten at night, and in these over-long hours something had to suffer. No boy can study the orders for two hours before and mathematics for three hours after his office work and be energetic and keen all the time. Some suffered both in body and mind, some saved the situation by a little judicious idleness.

Yet, though harmful when thus pushed to an extreme, the idea of the system was right. School training alone will never make an architect, just as office training at the present day will rarely produce more than a draughtsman. The old system was an effort to combine the two, and one cause of its failure was that the combination was too much. But any system must provide for both elements of training.

Now, in the first place we cannot lay too much stress on the need for a good general education. The architect is called upon to mix with all kinds and conditions of men and he should meet the best of them on terms of equality. He must in the first place be able to write his own language correctly. On leaving school any boy should be able to write on a subject within his knowledge, clearly, concisely and with good arrangement.

Further, an architect's work calls for a wide knowledge of literature and of the historical and artistic traditions of our past. He is constantly called upon to use references to classical life or fable, or to the more modern incidents of European or American history. The habit of reading, the habit of study and an intelligent interest in the history of mankind are no small aids to success in architecture.

Drawing as an exercise in accurate observation might well be included in general education and is certainly necessary for the intending architect. This should not be regarded as an artistic subject nor studied as art. It should be hard accurate description and nothing else. I do not know of any elementary school which teaches drawing from this point of view, but I am convinced that it is an educational subject of the greatest value.

Technical subjects should be left entirely to the college and omitted from the school course.

Architecture admits of more side interests than most professions, and I know of hardly any subject on which an architect may not be usefully informed. Let us then lay all possible stress on the need of a sound general education as a preliminary to the professional studies.

These studies are usually divided into three interdependent branches.

1. The artistic training, including archæology and design.

2. The scientific training, including engineering, building construction and the legal side.

3. The office training, the preparation of working drawings, the handling of building operations and the practical conduct of an architect's business.

The first two of these branches can be undertaken in the college, the third cannot and should not be attempted. It must be learned in the office and in contact with actual work. The college and the office must therefore co-operate in the training of the future generation.

When the college system was first introduced too much was occasionally asked of it. The graduate, flushed with his parchment and his college training, thought himself a full-fledged architect, entered an office and failed on the first working drawing he was asked to execute. His employer found that boys with no such training could do his work better and too often condemned the whole system forthwith.

But those graduates who practiced humbleness of spirit, hid their degrees for a year or two, and beginning at the bottom again, learned this new side of their profession with the habits of observation and study which they had gained in college, found that, within a year or two, they were something more than good office hands, they were architects with an equipment enabling them to specialize in whatever branch of their profession opportunity or inclination presented to them.

The danger lies in the student forgetting his college education whilst he is gaining his office experience, and in the disconnection between college and office. To avoid this, and to bring the college and the profession into closer contact, a method has been adopted by which the student works in the college for the winter months and in an office for the summer. So he brings his college learning at once into contact with the practice of his profession, and, what is as important, brings a knowledge of building operations into his artistic and technical college studies. So at the end of his course the student may hope to emerge as a young architect in touch with the actualities of his profession. He will require much further experience, but the end of his college course will not mean beginning quite at the bottom again, and he will pass naturally into the ranks of the profession.

Our aims in a well considered scheme should be: Firstly—To bring the student at once into contact with the profession. Secondly—To provide in college the scientific, technical and historical basis, and to give practice and guidance in design. Thirdly—To provide simultaneously with the college course for training in office work. Fourthly—To give to selected students an opportunity of foreign study.

Now, as to the college course, what relation should the mathematical and scientific studies bear to the artistic? This is one of the most debated questions of architectural education. Some courses provide an artistic training with the minimum of engineering knowledge, others an engineering course with a little architecture thrown in. All are of value and any attempt at uniformity in the various courses would be a mistake. It is well that the student should be able to choose the type of education that he desires and go to the institution which provides it. I cannot help, however, regarding the architect as essentially an artist. He is an artist who works with structure and he must understand the engineering side of his work sufficiently well to be able to use it freely, but he need not, and in practice rarely does, calculate the actual members himself. He goes to a consulting engineer for that. He must be able to direct his engineer. He must be able to choose the most economical as well as the most expressive forms of engineering, but he need not be able to make the actual working calculations and drawings.

We know that much of the finest architecture of the past has arisen out of structural methods. The mediæval masons of Northern France were the best engineers of their day, and much of the deplorable copyism of recent architecture has arisen because the architect was unable, through lack of engineering knowledge, to use the new structural forms to the ends of beauty. So he fell back on the good old standards and clothed his nineteenth century engineer's design in the archæological fragments of the past. But this is not architecture. If we are to have real modern architecture it must arise out of modern requirements and modern structural methods, not out of the fragments of Augustan Rome or of any other age of history.

The engineering training is valuable not as making the architect an engineer, but as providing him with inspiration for modern architectural design.

The most urgent need for architecture at the present day is to escape from copyism and antiquarianism. To escape from the stifling atmosphere of the "styles." Engineering offers one avenue of escape, but it must be kept subordinate to the artistic training.

There is one branch of education on which great stress is laid in Europe but which, for obvious reasons, does not bulk largely on this continent, the study, sketching and measuring of old work. We have some old work in Canada, particularly in the Province of Quebec, and to it our students might well give more attention than they have hitherto. Beside the architecture of Europe it cannot take a very prominent place, yet it is our own, it is of the soil and from it I believe our modern Canadian architecture might well be developed, certainly in domestic and church work. Much could also be gained from the study of our best modern buildings.

The importance to the advanced student of a visit to Europe cannot be exaggerated. Without seeing the great architecture of England, France and Italy he can have no real conception of the heights to which architecture can soar. A cathedral to him is merely a name, a photograph, it is not the embodiment of a people's emotions and the shrine of beauty.

Now for this we urgently require endowment. We require travelling scholarships which would give our best students six months or a year of study in Europe, or for a shorter period in this continent. We want scholarships, and we want a number of them. The scholarships of the Royal Institute of British Architects are open to Canadian students, but the practical difficulties in the way of competing are too great. We want Canadian studentships with conditions of competition and of study arranged to suit our Canadian students. It is difficult to see how this can be done except by the generosity of private benefactors, but it is to be hoped that some day we will see that the best of our young architects are given their proper opportunity.

The education of the architect is not a task that can be undertaken single-handed by the colleges or by the practicing profession. It calls for the co-operation of all. I would appeal to all practicing architects to help in this most important work for the future of architecture in Canada. Consider sympathetically the youth who comes for temporary employment during his college course and work him as hard as possible. Let him occasionally visit work in progress. I know from personal experience how valuable and how highly prized were such opportunities.

If our Canadian architects continue to be not only men of practical ability but also men of culture and of attainments, we need have no fear that the honorable profession of architecture will fall in public esteem. No legislative or artificial protection can ever equal the protection given by personal ability and a high standard of work. To maintain this we must educate not only ourselves and our students but the public as well.

Public Viewpoint in Regards to the Profession

Address by Sir Edmund Walker before O.A.A.

ABOUT the second year of the war one of the compensating hopes which came to many of us was the report that in Berlin they had been forced to melt down all statues because they needed the metal for other purposes. I think it has often occurred to people that the sculptor who brings into existence a statute in material which is likely to last for a century or two, and also the committee of citizens who desire to have some great politician perpetuated, have a great responsibility to society. They surely cannot know how greatly they interfere with the happiness of people who have any measure of taste. I venture to think that there is a condition a little bit like that in architecture.

I suppose the main responsibility for the baldness of many buildings that are put up in new countries must be put upon those who are determined to have buildings for an almost impossible cost—the architect must obey instructions. When one considers a country like our western provinces, and especially the towns, and when one also thinks of the time in the United States which was characterized in an article in the "Tribune" about thirty years ago, as the Neo-Oskosh and Romano-Cheboygan periods of American architecture, one is compelled to the conclusion that in spending the money and in devising the buildings a good deal more might have been done to save the natural beauty of North America than was done in the early days of town building, and than is being done in many new towns to-day.

The Neo-Oskosh has almost disappeared, and the Romano-Cheboygan cannot be found as often as it once could; the domestic architecture of the United States has improved wonderfully in the last generation, and what is true of the United States is also true of Canada. I can remember in the seventies, when I was a young man in Toronto, I used to walk about with a friend and say that we could tell about the year a building had been built by the various new vulgarities the architects were introducing at that time.

The point I wish to insist on is that a man who is building any kind of a house, and the architect who is designing it for him, have a duty to society, which, if this country was managed as well as France and some other countries, the state itself should oversee, regulate and control. But do not mistake me; I am not here to do anything but praise the architects. I do not think in our material life anything has improved so much in the last few years as domestic architecture. In public architecture, not so much the buildings that the Governments are responsible for, as the buildings of important public bodies, including the banks, the architects have been helped and have certainly helped in return, towards a better day than that of thirty or forty years ago, but yet it seems that we do not consider our problems sufficiently.

Toronto, for instance, is like the Lombard cities of the plains. It is a city that must naturally build of brick, or terra cotta, or cement, or some of those substances which fifty years ago were, in North America, rather despised, and the plastic nature of which is such that human vulgarity has an unusual opportunity to express itself. It cannot ever be in as abominably bad taste to build of stone buildings, and have them carved, as is possible with terra cotta and other plastic materials. We must, however, build of terra cotta and cement and other like materials, and we must consider how, by the help of science and artistic skill, we may learn to use these materials and produce the beautiful results that were produced in Southern Europe two thousand years ago, rather than to produce exhibitions of the efflorescence of our vulgarity or the lack of our ideas. Many architects have already done wonders in this direction, but I do not think that the general public appreciates the difference between good and bad architecture sufficiently to help the architect. I do think, however, that associations like this, and publications such as Construction, might do something in the way of a wider distribution of books and illustrations, so that the people who contemplate building might see fine types of architecture and obtain instruction which people are almost certain to absorb when they are forced to give attention to any one subject.

The Canadian people are highly intelligent, but when two or three generations have lived in the backwoods and the farms arising therefrom, there is not likely to be much aesthetic sense; it is almost certain to be eliminated and it must be built again from the bottom upwards. Our people do not often appreciate this, and those who come from abroad are hardly patient enough to understand it. When a man goes into the backwoods and hews a house out of logs and builds snake fences, and lives for one generation without paint, or anything else to merely please the eye, and then leaves his farm to a son who spends his generation paying off the mortgage, you have, by and by, a third generation who have never seen beautiful things around them, and do not think beautiful things are necessary in life. If you do not believe that this is the result, go and see the quite expensive schools and churches which stand in fields, around which no bush, shrub or flower has been planted, because the people in that community do not feel the want of them. They need not find any excuse. There is no excuse but that they can live quite easily without flowers or shrubbery, and without beautiful trees or beautiful things of any kind.

The point I wish to make before sitting down is that architects are a body of men who live mainly for the satisfaction of exercising their professional skill, as university professors and others do, and not for the remuneration they get in money. Anyone who went into architecture for remuneration only, could not have entered Mr. Cram's office, because he used to ask intending students if they desired to make money out of architecture, and if they did, he told them he thought they had better turn to something else. I suppose you live for your profession and the good that can be done, and incidentally for the commissions that are earned. We honor you for that and we glory in what architects have accomplished.

As far as I am personally concerned I have been interested not only in the structures that have come under my control in the Bank of Commerce, but in trying to develop the Royal Ontario Museum. I had definitely in mind the hope that it would help towards a better architecture in this country. In the Museum we have not yet done what we have hoped to do. We shall soon be putting up some interesting specimens of Chinese architecture in the shape of two great archways. We can show there now the wonderful things that can be done with terra cotta, and we also hope, through the gift of the Eatons, to erect complete Jacobean, Georgian and other types of rooms, carrying out the idea so that they will be useful to architects. We hope to have there as complete examples of furniture as can be obtained, one of the avowed objects of making the collection being that it will improve the types of furniture in this country.

I know that one of the heart-breaking things to many architects—especially those coming from other countries to Canada—is that after they have built a beautiful house with beautiful rooms, the occupant proceeds to ruin every dream in which the architect has indulged by the furniture he puts in, the pictures he hangs on the walls, and what he puts on the floors. And our Museum—perhaps more for the interior of houses than otherwise, is intended to create public taste and to benefit the arts connected with architecture. We have reached a point where the objects owned by the Museum are so enormous in number, the new collection of Greek vases so useful in design, the things that are coming from China, and Mexican antiquities, and other things, that the second section of the Museum must be built in the immediate future. I would like very much to think that I could interest architects here enough for them to satisfy themselves as to the value of the work we are doing, and to have them use every effort they can towards the building of the second section.

Adequate Protection for the Canadian Architect

Paper read by Charles S. Cobb before the R.A.I.C.

IN the report of the Royal Architectural Institute of Canada, proceedings of eleventh general annual assembly, Montreal, last January, appears the following statement, which was made in the report by Mr. Hynes on ths subject of this paper, as follows:

"In considering what the Government of the Dominion has already enacted affecting the practice of architecture in Canada, we note that there is a custom tariff which imposes a duty on plans imported into this country of 22½ per cent. (plus war tax of 6½ per cent.) on one per cent. of the cost of the building. However satisfactory this measure may be for the purpose of raising revenue, it is practically useless as a protective measure to the architectural practice of the country. It is easily avoided and frequently evaded, and is extremely inadequate, amounting, as it does, to less than three hundred dollars on every hundred thousand dollars cost of building."

Continuing, he says: "The Alien Labor Law is another Dominion enactment which might be thought to ameliorate our grievance, but on examination it is found that it is not enforced in regard to the professions, and though it is a reciprocal measure, it works to the disadvantage of this country. The United States permits an alien architect or engineer properly accredited to practice personally in that country, but absolutely refuses to allow him to transfer his organization to that country. In Canada, on the contrary, temporary offices are established by outside organizations and the principals do not personally conduct their operations, in many cases rarely even visiting the country."

Taking this as my inspiration it occurred to me that it would be interesting to enquire further as to just what was the form of the existing tariff as regards building plans and specifications, the paragraphs of the tariff relating to them being as follows:

CANADIAN TARIFF, 1907.

ITEM 177.—Admiralty Charts, Manuscripts and insurance maps, and album insides of paper; *pictorial illustration of insects or similar studies*, when imported for the use of colleges, schools, and scientific and literary societies,—free.

ITEM 180.—Photographs, chromos, chromotypes, artotypes, oleographs, paintings, drawings, pictures, decalcomania transfers of all kinds, engravings or prints or proofs therefrom, and similar work of art n.o.p. blue prints building plans, maps and charts, n.o.p. 22½% ad valorum, 7½% war tax.

APPRAISERS BULLETIN NO. 152.

JUNE 7, 1906.

Specifications are free as "manuscripts" when written or typewritten.

Special plans of building or blue prints or substitutes therefore, are to be valued for duty at the charge usually made by the architect for the drawings, without specifications.

This charge may be fixed for duty purposes at one per cent. of the estimated cost of the building to be erected.

Detail drawings or blue prints or substitution therefor if imported separately to be appraised at a valuation of one per cent. of the estimated cost of such detail.

When the building is erected to cost less than $10,000, the plans or blue prints thereof may be appraised at the usual charges for furnishing same, according to the special circumstances in each case irrespective of the preceding rule (No. 2).

I believe that the text of these schedules is specially interesting, illustrating as it does the meagre appreciation of the framers of this tariff as to what adequate protection for the architectural interests of Canada really means. You will note that specifications which, as we all know, are as important as the plans, are duty free, and are classified with, among other things, "pictorial illustrations of insects." As regards building plans they are not considered of greater importance than chromos, chromotypes and decalcomania transfers.

As regards the authority by which the existing tariff of 22½ per cent. and 7½ per cent. war tax is based on valuation of 1 per cent. of the estimated cost of the building—this is not in any way connected with the Act, but is a decision given by the Customs Board at Ottawa and incorporated in Appraisers Bulletin No. 152.

In discussing this situation informally with some of the customs officials in Toronto. while reluctant to make any comment on this situation, they conveyed to me the idea that in their opinion the basis of this tariff was entirely out of proportion with the duties imposed upon all other kinds of imported goods. They also led me to believe that it was only very occasionally that they were asked to pass upon the application of this Act and left with me the impression that by far the greater amount of work handled in Canada by outside architectural firms escaped even this meager tariff payment.

There are several things of a constructive nature which could be done in this connection, some of which are as follows:

1. A duty should be placed upon specifications similar to that at present existing on plans, or 22½ per cent. *ad valorum* and 7½ per cent. war tax.

2. The basis of valuation which is not part of the Tariff Act but is at the discretion of the Customs Board at Ottawa, should be raised from 1 per cent. of the value of the building to at least 2½ per cent.

If these suggestions were carried out we would then have a duty of 22½ per cent. *ad valorum* or a total of 5 per cent. on the value of the building, divided equally between the plans and the specifications; this would give us a tariff about four times as heavy as it is at present, and I believe that much could be secured with little difficulty.

As to the *ad valorum* rate of 22½ per cent., I believe that this should be increased to at least 35 per cent. This of course, would require a revision of the Act, but as the tariff was formulated as far back as 1907 it is in order to consider that it is time for a revision. If this percentage was changed to 35 per cent. on a valuation of 5 per cent. of the cost of the building, distributed half and half between the plans and specifications, it would increase the present imposed duty about eight times, or a tariff charge of $1,750 on each $100,000 worth of work executed in Canada exclusive of war tax. This basis is in accordance with the duties prevailing in general on manufactured goods of foreign origin.

There may be a difference of opinion as to whether this would be a deterrent; I personally believe it would, at least, the fact that it was plain justice would make our architects feel better on the subject, which in itself is very decidedly worth while. I know that there exists in this Institute the feeling that the business of the architect cannot be compared with the manufacturer who deals in tangible goods, but I am one of those who feel otherwise.

In recently approaching a local merchant, who was proposing to erect a large store in this city, a Canadian architect made every reasonable and legitimate effort to secure this man's interest and the commission for his building, if not for himself at least for some local practitioner. The results of his efforts were that the job was given to a United States concern having a local branch in Toronto. The reasons given for this action was that there was no one in his opinion in Toronto who had the requisite experience or could show the same background of executed work, as the firm which was awarded the job. In this the architect was compelled to agree with him as far as the extent of the executed work, but as regards efficient, intelligent and energetic handling of his problem, he could not agree that the service which the merchant had secured would be in any respect superior to that offered by local firms.

In discussing the question with him after his decision had been made, the merchant was shown under what a disadvantage the local architect was laboring in view of the fact that he could not display the mass of executed work which his United States competitor could do, and that in this respect he was in the same position as the small manufacturer, who could not hope to develop his business successfully unless there was some encouragement given to him to make it possible for him to overcome the initial inequalities. The "Protective Tariff System" does not permit of the architect in the infancy of his industry to secure a footing against the competition of the larger and highly organized competitor—this was supplied. The architect pointed out to him that in his opinion there would be no such thing as a Canadian manufacturer, and indirectly no prosperous Canadian industrial community from which the merchant drew the great bulk of his business, without protection. This argument seemed interesting to the merchant and he finally said, "Where is your association? Why don't you bring these facts more actively before the public, and try to develop some sentiment which would assist you in this connection?"

I feel that the practice of architecture in Canada is in its infancy, and when arguments are used against the employment of a local architect because of the small amount of executed work, we in a sense are in an identical position with the small manufacturer who could not even consider the possibility of entering the field of industry in Canada, if his initial efforts were subjected to impossible conditions of competition. The highly organized industrial machinery which exists in the United States has been built up by years of high protective tariff, and has developed an enormous production with the resulting cheapening of manufacturing costs. Still another aspect of this situation is that the securing of an initial job in Canada by an alien architect often means the start of a practice which becomes strongly entrenched.

As regards the ability of the Canadian architect to render service, I do not wish to say that there is no room for development and improvement; but I am confident that if the opportunity were given to any of the progressive firms in Canada and the same consideration accorded them as given to the alien practitioner, that the result would not be disappointing.

I feel that as regards our profession and this question, that we may be likened to the seed of a plant which is placed in a dark cellar and expected to produce a vigorous plant. The seed may have all the potentialities of a vigorous plant, but without the sunshine, good soil and cultivation, it can never reach its fullest development.

An argument which is used against the Canadian architects is that he has not the organization of his foreign competitor. How can a local man support an organization if he cannot secure the big work necessary for maintaining it? In what respect, therefore, do we differ from other struggling industries, and why should not the Government give us the same measure of assistance that is necessary in all branches of the industrial field?

In discussing this question it has been suggested to me that the tariff could not reach the bottom of this problem, and that our energy should be devoted to securing some type of legislation which would absolutely debar the foreign architect from practicing in Canada, except in collaboration with some Canadian. Personally, I do not think that this policy is possible, or desirable, any more than it would be to restrain the importation of foreign goods. I believe that there could not be an embargo placed upon the securing of outside architectural service if a Canadian firm or individual considered that they could not secure the quality which they desire except by importing it. I do feel, however, that architectural services should be placed upon an equal basis with the importing of anything else of essentially foreign origin and covered by a proportional tariff.

As regards the subject of evasion, there is no question that at present the duty, meagre and ineffectual as it is, is evaded. There is no dodging the payment of duty on a carload of machinery, or clothing or other manufactured articles, because it is too big to escape the observance of the Customs Department. But a set of plans or sketches of a building, which may entail in their production a higher cost than a carload of goods, and may return to their owner a profit many times that of the same carload of goods, can be slipped into a coat pocket. I understand that a large corporation recently erected a plant in Ontario designed and constructed by a New York concern on which not one cent of duty was paid in any way. The cost of the enterprise ran into millions.

As to the character of this foreign competition much can be said. During the past few months in Toronto we have had placed before us three-quarter page advertisements in the daily papers, stating the qualifications of a certain firm of engineers, architects and constructors. They have included in their advertisements a sizeable list of commissions executed in Canada, and also a list of similar commissions in the United States. They express to the public the advantages of placing the entire building problem in their hands, from its inception to the completed building, and conclude their appeal by asking for an opportunity to study any problem presented to them without obligation to the owner. As to whether this method of appealing to the public is in accordance with the ethical standards of this association, I must leave to the judgment of the members.

In the discussion of this question last spring, there developed a considerable sentiment among the members of this association as to whether this question was worthy of our consideration. When we see all of the theatrical work divided between one office in New York and another in Detroit, and again see the two largest department stores in Toronto engage Chicago firms of architects to do their work, the cost of which is in the millions; when the addition to our local hotel, costing one and a half millions, has to be handled from Buffalo; when the factories of the automobile industry are designed in Detroit, and the directors of banks, in some instances, have considered New York as the only source of high class architectural service, and many other instances, forming a list too long to mention, I claim it is a subject affecting the larger development of architecture in Canada, and too great to be lightly passed by.

The opportunities which arise from Canadian business should be conserved for the Canadian architect, his present disadvantage should be offset by adequate protection given by the Government. Methods of evasion should be overcome and offset. Our efforts should be centred on securing strong tariff protection and an Act like to the Architects Registration Act now in force in Manitoba, or some similar enactment, which would have a very important indirect influence on this subject.

A few years of adequate production would, I believe, change the situation. One large commission held on this side of the line would set some local office on its feet. One large commission successfully executed would mean more work of the same kind, and finally this process would result in the development of strong, efficient Canadian firms competent in every way to give the same or better service than the outsider.

The question of education, vital as it is to the proper supply of workmen and eventually architects in our profession, should not prevent us from getting adequate protection at once. I fear that if we await the fulfilment of the educational platform, many years may elapse and the opportunity will have largely passed.

Has the Canadian importer of American buildings inquired into the technical education of the theatrical expert, departmental store expert, mail order building expert, etc., etc.? I do not think so. I believe that all these men have approached the Canadian field with a business sense, and speaking to business men in their own language have put their proposition across, leave us here in Canada wondering how it was done. The public judges more by the product of the practitioner as to whether he is properly educated than by the number of degrees which he can attach to his name. If we conserve the opportunities for our own architects, adequate education in itself will follow, as the architectural field will be one of importance and will warrant support.

We will look forward to an increased activity in building coming after the present period of re-adjustment. I believe that American competition will not decrease, but will increase. One great obstacle in my mind preventing the collective action of the architects is apathy and the willingness to let things remain as they are, and this should immediately be overcome. The Canadian field should not be the happy hunting ground for the American architects as against the domestic practitioner. In connection with a recent building erected in Toronto, I find that the duty was paid on the plans, but that the architect did not pay same, but had been astute enough to provide for the payment of this small levy by the contractor.

The experience of local firms acting as associates for outside concerns, has not been entirely satisfactory. In many instances this local association is simply to meet public sentiment in the matter, and the local associate is very much in the background. I am sorry to know, also, that in at least one instance a local firm, and a member of this Institute, is actively soliciting work for a prominent United States organization, and in so much as this is true, weakens our position with the public. A *stronger* organization of Canadian architects should be our object.

As the architects, the engineers, the building contractors, the manufacturers of building material and the people that all these agencies employ, as represented by the Trades and Labor Councils of the building industry, are all interested, I believe in considering this subject, if they were strongly allied together, that even the most powerful interests in Canada would hesitate before passing up the local man.

There is no question in my mind as to the tendency of the foreign architect to specify imported material, and in a specification which I have noticed, prepared by an American architect, the standards established for many of the materials used in his building were of United States origin, and apparently the whole specification was a copy of the one used by the firm for American business.

In conclusion, I would say that it is expedient in the *public* interest to give Canadian architects adequate protection for the following reasons: (1) To improve the quality of Canadian architecture. (2) To increase the opportunity for lucrative employment for those of our young men who wish to make architecture their life work and thus hold them in the country. (3) To make available to the public the best possible architectural service, backed by strong, efficient and skilful organizations. (4) To foster the use of Canadian building materials, to encourage the employment of Canadian contractors, and to promote in general the best interests of the Canadian building industry and the large body of men connected with it.

Whether it would be ethical, or proper, for a combined Association to place their attitude before the public in a series of well-considered advertisements is a question of interest and possibility. Of course, all of this means energetic action of the organization and a willingness to make some sacrifice for the common good, and above all, to overcome the apathy which has in the past handicapped the best interests of our profession.

Following Mr. Cobb's address Mr. J. P. Hynes stated that in the enthusiasm of the high tariff days of the N.P. policy in Canada, the tariff was put at 5 per cent. on the cost of the building. The only job I know of, at that time that evaded it was the Ontario Parliament

Buildings, being a public project. The next one was in Ottawa when a Liberal Government failed to make connection with the British American Bank Note Company and gave the contract for all printing of bills and postage stamps to the American Bank Note Company, which promptly brought a company from New York to erect a building. By Order-in-Council the duty was remitted and the plans came in and that Order-in-Council stood until there was a revision of the tariff, which Mr. Cobb mentioned, after a couple of consultations with the architect which seemed to avail nothing.

Yesterday we discussed the status of the architects, and this morning we have discussed how to educate him and put him in the position of a professional man. Mr. Cobb's paper, I think, brings us to the parting of the ways. We cannot hunt with the hounds and run with the hares. We have either to be professional men basing our business on that alone or we have to be on a line with manufacturers.

It seems to me that every blessed thing that any competitor on the other side wants to bring into this country, can be brought in in the form of blue prints, including specifications. So that they would have the difficulty of deciding with the Customs Department whether a specification was a specification or a blue print.

This question was considered by a large committee when the architects and builders got together with the idea of presenting a petition to the Government about their grievances from foreign competition, and after considering the tariff in every phase, it was dropped. In that paper I read I mentioned it merely to show that the thing was not overlooked.

If they got a ten per cent. tariff, if the Canadian builder or proprietor had to pay double the rates to get an American architect, in many instances I believe he would do it. There is no possibility of getting a tariff so high as to prevent the Canadian proprietor bringing in the American architect. The higher that tariff goes the more premium it puts on the American ability. An instance occurs to me. I attended a convention of architects in Cleveland once and met a Japanese architect there. As I shook hands with him I said, "We seem to represent the foreigners here to-day." He said, "That is very good, the imported goods are always best." Now we cannot overlook that.

Are we going to place it on the basis that puts the tariff into such a position that everything will come across in the shape of blue prints, and blue prints are what we have to base it on, does it seem worth while?

It was put seriously forward that the expense of a building going up under foreign supervision was sufficient for the Government to collect duty on, but we were promptly told that the Government did not collect duty in that way, and that things on which it would collect duty had to come through the other way and we would have to go to Inland Revenue or something of that kind, and the Inland Revenue said they had never heard of such a thing.

Nothing seems to be adequate. The Committee on Manufactures dropped it on consultation with the tariff expert of the Association. We are constantly giving our attention to building up the status of architects and their education as a profession. We must decide which way we are going.

Mr. Cobb mentioned in his paper—with much of which I heartily agree and do not want to seem hypercritical regarding it—that he did not believe it was possible to get the protection of making the foreign architect practice in conjunction with the native. We are not asking any more in that connection than what is now granted to every closed profession in Canada.

Lawyers may come over here and consult with lawyers even at the counsel table before the Bar, but they cannot rise and address the Court and they cannot open offices and practice as solicitors. Doctors may come over here and assist in the operating room, but they cannot be the operating surgeon.

So it goes right through, with dentistry and pedagogy. As this has been established with the majority of professional practitioners in this country, I see no reason why it should not be established for ourselves. It puts us on a dignified plane and a professional basis. We are not surely going to try to appear to the public as though we are grasping everything in a storm; it may be bad enough and may be worse with the American competition, but we have to keep our dignity and show that we stand on a certain basis and put it fairly to our fellow-citizens and get the Government recognition that the other professions have obtained.

Mr. W. Wrigley stated that, as a representative of CONSTRUCTION, he attended the Convention of the Association of Canadian Building and Construction Industries in Ottawa last fall. "They discussed this question, and got very close to the Government. The architects were not represented at that convention. I would ask Mr. Hynes if his reference to the matter having been taken up with those who supplied material referred in any way to any action of the Association of Canadian Building Industries. Mr. Hynes says 'no.' The situation to-day therefore is that those who supply building materials had this question up. They have an organization; they are close to the Government; they see these departmental stores, these mail-order houses and other buildings being erected by American firms. They see American materials, which are no better than materials of the same class made in Canada, imported and used in these buildings. It is just as live a question with them as with you. I believe that working with them a committee of this Association could do considerable.

"A case came to my notice during the past week; a mail-order house is being erected at Moncton, with an American architectural and engineering firm doing the work. The Canadian manufacturer of a certain material interviewed the engineer of the mail-order house, who approved his material and promised that this material would be used, everything else being equal. Tenders were called for. An American manufacturer of the same material tendered. The Canadian manufacturer tendered. The Canadian manufacturer's price was the lowest. But from the office of the American architect and engineer the U.S. manufacturer was given a chance to revise his tender; the order was given to the foreign maker, and the goods were imported over the head of the engineer of the mail-order house in Canada.

"From the standpoint of materials it is a vital question to all members of the Association of Canadian Building Industries, as important as it is to you from the architectural standpoint, and I believe co-operation could be obtained from that end."

Architectural Scope in Town Planning

Address by Noulan Cauchon, C.E., at the R.A.I.C. and O.A.A. Convention.

THE kind invitation to meet and address the Royal Architectural Institute is much appreciated.

As an Engineer I feel that exchange of professional viewpoint is good for us both, and in Ottawa we have endeavored to make this permanent through the Canadian Town Planning Institute, comprising architects, surveyors, engineers and landscape architects. Many of you are already Associate Members of this organization, as are we, awaiting final disposition.

A thoughtful friend of mine—an architect at that—gently intimated that I bore not with engineering and economics. May I then risk, as an engineer, defining Beauty in terms of Energy. Beauty gives pleasure. Enjoyment may be ascribed to the normal exercise of function, the muscular and nervous activity of the senses.

Now, as Beauty stimulates, excites response of the senses, quickening their functional activity, it reveals thereby an actual transmission of power, a vibration quite wireless, if you will, nevertheless an equation of Beauty in terms of Energy.

Beauty is a dazzling form of Energy. Consciousness of this vibratory Energy of Beauty seems to depend upon attunement to "wave lengths"—perhaps we are stumbling on to a scientific appreciation of that mysterious imperious power—Love?

For the moment we must leave the fascinating investigation of it to some physicist—to measure its "wave lengths," and determine the necessary "complex mechanism for the capture, storage, and release of energy" thereof; not neglecting to consult that eminent zoologist, Henry Osborn.

The evolutionary origin of the senses—of the color sense in particular and in general of "physiological aesthetics," are seemingly not studied or applied enough by architects or engineers at large.

The public buildings of this Canada of ours lack in general that appeal to popular understanding that has obtained for our great engineering works; the latter, though gaunt in their truthful structural expression of power—to purpose—have struck the chord of native understanding as to fundamentals in the nature of things.

If architecture will seek to mould freely the properties of matter—free from traditional bias and conventional cramp—to fathom the abstract soul of things—engineering will come to soften the ruggedness of its archaic strength.

Give no countenance to weakness of line nor sparseness of substance, but do hunger for that complete relation and fullness of organic structure to function, revealed in beauty of perfect human form.

Seek for the organic—transcendental, abstract ideal—in architecture as symbolized in column and lintel of Parthenon, in pendentive and dome of Hagia Sophia, in groin and flying buttress of Amiens.

Art is expression, sought through the properties of mind and of matter, of Truth Absolute, inherent in the nature of things—technique, the tempered tool in master hands.

Some architects claim Noah, builder of the Ark, as the first architect, and we won't dispute the claim of professional continuity—the strength of heredity and tradition is all too palpable in its renaissance on Mount Arrarat in Ottawa; also further a-field in a cubist houseboat with portals that barely admit of "two by two"—and a refrain tingles in one's memory, "there is one more river to cross."

Sons of Noah merely smile—now. "Hope springs eternal in the human breast"—according to the poet; so we despair not, we in the Capital that is so full of promise, of political rainbows—that it will never be so wet again.

Now, coming back to your brethren, the engineers, they may claim prestige from Yu, the first chief engineer of China, who, some twenty-five centuries B.C., so successfully reclaimed the lands of China from the devastations of Noah's flood—that they made him Emperor. Nothing doing since! Not even a cushy job in Parliament!

We are still toiling to reclaim Nature's recklessness and man's wastefulness—toiling for the conservation and the conversion of energy to economic purpose—for the maintenance of life, in the enjoyment of which we can share your appreciation of architecture "as a great world-wide art in which the human race has endeavored to realize in material form its aspirations after abstract sublimity."

And again, quoting Henry Heathcote Statham, "If there is one thing that a survey of the history of architecture shows clearly, it is that all that is great in architecture has arisen from the desire to do something fine and noble for its own sake, and, where there is not that desire, there will be no great architecture."

Some town-planning schemes will now be submitted, on the screen, and which, I trust, may display somewhat of the scope there is for architecture in town planning—in Ottawa, Hamilton and London.

Canada is upon the threshold of reconstruction—in ethics, economics, and art—and I trust the material may not triumph over the soul.

When lands that have suffered the actual ravages of war, like Belgium and France, think it meet and advantageous to plan their recuperation with science and art; then surely Canada, with its vast resources unscathed and its wealth slightly taxed, cannot refuse to see the light of understanding.

War Memorials

Address delivered by Mr. Herbert E. Moore before joint meeting of R.A.I.C. and O.A.A.,

WHEN confronted with the proposal that I prepare something for this convention on the subject of war memorials, my first thought was: What can I say that will be of practical interest to such a gathering, particularly in view of the many excellent articles that have been published from time to time, touching, as most of them do, on every phase of war memorials.

After a review of much that had been written on the subject, it appealed to me that a brief review of conditions leading up to the formation of the Ontario Advisory Committee on War Memorials, and a reference to its activities and experience, would be of more practical value than anything I could say dealing with the æsthetic side of memorials, and might possibly result in facilitating some concerted action toward meeting the conditions surrounding the promotion and erection of war memorials in this country.

In the closing stages of the war, it was apparent that everywhere people were becoming actively interested in the question of war memorials, but, unfortunately, very little had been done to direct public opinion in how best to commemorate the great cause and the tremendous sacrifice that had been made in defence of the liberty of the world.

While it may be said that we had the experience of the results of the great European war and the civil war in the United States to guide us, we nevertheless were unprepared to deal effectively with the conditions which arose in this country concerning war memorials. This was due, no doubt, to the nature of the war, which was unprecedented in history, and also to the fact that Canada, a young and growing country, had never before been involved in anything approaching such a struggle.

We find ourselves, therefore, suddenly confronted with the problem of how best to direct and advise the public in its desire to erect memorials, a desire which was followed by a decision on the part of individuals, societies, churches and communities generally to be first in the field, and this decision was made and preparations completed for the design and erection of memorials with very little to guide the promoters other than their own ideas and those of the stock tablet manufacturer and the monument maker.

There were some, however, among those interested in the various promotions who counselled delay pending a reference to some authority on such matters capable of giving advice, and as the result of many inquiries directed to those at the head of various art societies, and a realization of the conditions by artists and architects, a meeting was called last March at the Arts and Letters Club, at which were represented the Ontario Society of Artists, the Graphic Arts Society and the Ontario Association of Architects.

The result of this meeting was the formation of the Ontario Advisory Committee on War Memorials, organized to act as a bureau of information and in an advisory capacity on matters in connection with the promotion and erection of war memorials in the province.

The first work of the committee was the issuing of a circular for public distribution, setting forth the aims and objects of the committee, and offering service in the capacity mentioned. This was followed by a circular containing suggestions as to various types or forms that might be considered suitable, and giving advice as to the best procedure in the promotion, the securing of designs, and in the erection of memorials; and in the case of public memorials of any size and importance, the committee expressed a doubt as to whether the time had arrived for a proper and effective portrayal of the ideas and ideals of the Great War. It was the opinion that it will require years of consideration before the artist has time to find his symbols.

In this connection it would be well to bear in mind that our country cannot be compared with the older European countries that have suffered for centuries through wars; we have never been invaded and pillaged, and have not been called upon to guard and defend our borders and national life as they have been called upon to do. Hence we have not experienced the suffering and the sacrifices which have resulted in the creation of such memorials as the Gloria Victus in the Court of Honor, of the Hotel de Ville, Paris, a monument commemorative of the Prussian War, and conceded one of the best modern war memorials yet produced in sculpture, giving beautiful expression to the spiritual qualities of self-sacrifice, tenderness and mercy. It might be prescribed as an antidote to those whose ideal has been the metal soldier on a tombstone.

While we may hope that our best war memorials will appear in the years to come, it is to be doubted if the average war memorial project in this country can be delayed beyond the present time, when the interest is on the crest of the wave and immediate production is demanded. Realizing this condition, the Advisory Committee has endeavored through a campaign of publicity to reach the public, and requests for advice and service have poured in from all over the province, in fact the whole Dominion, and these were dealt with to the best ability of the committee.

In many cases, promoters were disappointed because we did not provide designs, and the experience gained by the committee furnishes good grounds for the opinion that the public must be educated in the matter of design, the creation of which in their mind is a very simple thing. This education, in the opinion of the committee, can only be accomplished by repeated effort and the publication of examples of the best works of their respective kinds, and also by illustration of works that can be pointed to as failures, or, in other words, examples of "what not to do." In this connection the committee has been favored with valuable suggestions from Mr. Thos. Adams, who has taken such a keen interest in the subject and who advocates the publication of a brochure, such as that published by the Municipal Art Society of New York City. The idea is to have this brochure published by the Conservation Committee. Linked with this suggestion is the question of an effective administration that will cover the whole Dominion, as, while this Ontario Advisory Committee was previously organized to cover this province, it has to a great extent covered the whole country. It is impossible, however, for one committee acting in this capacity to adequately serve the public, neither can it be expected that voluntary service is entirely the proper one under the circumstances. As the result of a conference with Mr. Adams, it has been planned to send a deputation to Ottawa to ask the Dominion Government to appoint a Dominion War Memorials Committee, which it is suggested be composed of representatives from the Art and Architectural bodies of the Dominion, together with such number of laymen as the Government might deem desirable.

The appointment of such a commission would make it possible to deal with all questions respecting war memorials, and would be particularly valuable as an advisory and consulting body to the Government on all memorials of a national character.

I am personally of the opinion that the Government should be asked to organize and equip an office under one of its departments that would be at the service of such a commission, and would prepare and distribute all necessary information and otherwise take care of all business in connection with war memorials.

I am sure you will agree that our memorials must be worthy and must to the last degree adequately represent and express those great ideals that were so nobly upheld by those who served their country in the great war.

Public Taste and Architectural Housing

A RECENT issue of the "Architects' Journal," London, prints a letter from a contributor, from which we take the following:—

Great architecture has always been dependent on three factors—great impulse, needing monumental expression; great command of material resources, and great power, based on knowledge and culture, to use those resources. How this culture was formed, how this knowledge was acquired in the past, we cannot say. In what way the traditions of Classic and Gothic architecture were passed on from generation to generation of architects is not fully clear. In what schools their patrons learned to appreciate the qualities that transform a conglomeration of bricks and stone into a thing of beauty and a joy forever, is equally obscure. It cannot be believed, however, that the great architectural achievements of the past were produced without the stimulus of appreciation and approbation. It is very largely because these stimuli are absent to-day that we have fallen upon so comparatively evil a period in the art. This is a period of reconstruction. Is it to be a period of Renaissance? If in architecture, it will only come when we have succeeded in engrossing the public mind with the idea that the forms in which the buildings appear which are raised to house the myriad activities of the times are of material consequence.

In the period between the Renaissance and the present time such architecture of merit as has appeared has been due to the fact that some appreciation of architecture and some knowledge of its value formed part of a polite education. A world governed by an aristocracy and disposing of its resources through its agency had some regard to at least politeness in its architectural display. This period of aristocratic government roughly came to an end with the passing of the first Reform Bill, through which we plunged into the Victorian era. This era has been subjected to much rough handling by critics, and doubtless deserves it all. It was a period dominated by an intense pursuit of material prosperity—a period in which those rude and vigorous characters who built up the great industrial fortunes of the times elbowed from place and power those who, whatever their incapacity in other directions might have been, had at least carried on some tradition of elegance and refinement.

All the arts suffered in the process. Everything became at once more elaborate, less elegant. Buildings, furniture, tapestries, dress, all alike coarsened and vulgarized. Then came the reaction. The reaction, unfortunately, had a more or less artificial character. Confined in its area and somewhat fleeting in its effects, engendered by no great dynamic force, rising rather in the minds of æsthetes than in the great common emotion of the people, it left no great deposit on the shores of architecture.

A new world is being born, the pre-Victorian period of aristocratic government is passed, the Victorian administration of the middle classes is following it, democratic government is hard upon their heels. County Councils which, when they first came into being, were the natural field of labor of the territorial magnates, are now captured by labor, and the process is spreading. The great architecture of the future will be built at the demand of the people for their own purposes and to their own ideas. No such calamity can befall the art of this period as befell the art of Rome under the Barbarian invasion; partly because, decadent as Roman art had become, it still stood above the level of the present; partly because with the new invasion comes, if not fully developed and matured taste, yet a great desire for beauty and its expression in life.

The writer attended a conference on housing the other day, at which were present doctors, lawyers, architects, builders and representatives of labor. The thing that struck him as being most significant was that while all the representatives of the professional and trading classes there were in the main concerned with the effect of the housing proposals upon their professional and business interests, it was left for one solitary labor representative to voice the aspiration of the people for an expression in the new housing conditions of those æsthetic qualities which redeem life from sordidness and ugliness and make our outward surroundings correspond to our inward feelings. It is for us who care for these things in architecture to seize the occasion, to stimulate this desire, to develop it, and to train it. How is it to be done?

Comment has been already made in this journal on the happy conjunction which in this unique period of reconstruction had placed a great architect in the chair of the Royal Academy, and a hope has been expressed that out of that conjunction might come a grasp of the possibilities of the present situation which would express itself in the production of the great architectural works commensurate with this supreme passage in the world's history. Naturally one is pleased, therefore, to find that the same thought was expressed, with more felicity by the Prince of Wales at the Academy dinner. In his speech, and in the person of the speaker, the significance of the situation was exposed. It now remains to be seen whether it will be grasped by those in the profession who are responsible not only for safeguarding the interests of its members, but also for raising the public standard of appreciation of architecture.

One fully appreciates the interest with which architects must watch the narrowing of those fields of private enterprise upon which they have largely depended in the past. One has the greatest sympathy for the apprehension expressed that the life may go out of architecture if it comes under the regulation and control of Government departments. Fear has been expressed that a Ministry of Fine Arts portends a Defence of the Realm Act, which would crib, cabin and confine all artistic expression. How is this danger to be avoided? Only by a development in public taste. To establish a Ministry of Fine Arts in a State where the public care nothing for architecture would, indeed, be to invite disaster.

The outlook is not altogether dark. There are gleams upon the horizon. Architectural education is taking its place where it should be found—in the universities. We may hope and work for its development there. It is to be desired that in every university throughout the length and breadth of this land the Chair of Architecture shall become one of the great chairs, and that students who pass through these great schools shall emerge with the conviction that the expression of life's ideals and emotions is not confined to print and paint, that not alone in prose or verse can be recorded those feelings which lift us from the earth.

In the past the University Extension Movement has done something to present architecture historically to the public. What is needed is to cultivate not only the sense of admiration and reverence, but to produce the belief that architecture is no dead thing, but a living outcome of the needs of society.

One of the greatest and most promising enterprises of the present day is to bring the scope and atmosphere of university life within the range of working-class attainment. This is being done in many centres. Thousands of men and women, many of whom are destined to become leaders in the working-class control of the community, are being imbued with the value of literature, music, and, to some extent, the creative arts. It needs be that architecture should be presented to them as a subject worthy of their study. Is it too much to hope that an enlightened Board of Education may be induced to include some conception of the study of the great principles governing architectural design within the curriculum at least of secondary schools? We all desire to see the day when the men and women of the future who rule England shall at least have not less interest in architecture than did the men who governed England in the past.

A last word: What is to be the relation of the Royal Institute of British Architects and its country associations to such a movement in education? Is there to be a real link between them and the universities? Will they throw themselves heart and soul into this enterprise? Will they realize that if architecture in the schools is to be the presentment of a living subject and not the tale of a dead past, it will only be if between the men who are practising it in the pursuit of their profession and the men who are expounding its traditions and enunciating its principles is the closest personal contact and the deepest sympathy?

Timber Scarcity in United States and in Canada

The progressive diminution of timber supplies in the United States is reflected in the constantly increasing demands for the importation of forest products from Canada. For example, the United States in 1918 imported a total of 1,370,027 cords of pulpwood, valued at $13,362,566. Practically all of this came from Canada, and representes an increase of 47 per cent. over the number of cords imported in 1910, and an increase of 119 per cent. in the value of the material. The importations of wood-pulp from Canada and other countries have also been very heavy, aggregating in 1918 some 516,258 tons, valued at $31,477,175.

Chief Forester Graves, of the United States Forest Service, impressed by the seriousness of the approaching timber shortage, particularly in the Eastern and Southern States, has issued an appeal for the adoption of an adequate national forestry policy, involving drastic action by the Federal Government and by the several States. The need for action with reference to privately-owned timber lands is particularly emphasized.

> Exhaustion of local forest supplies, the closing of industries dependent on them, the embarrassment for supplies of the pulp mills and other consumers using special classes of forest products, the generally mounting prices to consumers, are factors which are calling sharp atention to the effect of forest destruction, and are causing increasing public uneasiness.
>
> Forest depletion is injurious long before the last tree is out, and long before all but the last centre of production is exhausted.
>
> Leaders of the southern pine manufacturers state that the bulk of the original supplies of yellow pine in the South will be exhausted in 10 years and that within the next 5 to 7 years more than 3,000 manufacturing plants will go out of existence.
>
> Hundreds of communities are suffering because the resource supporting their chief industry has been exhausted. Sawmills and woodworking establishments close, subsidiary interests can no longer exist, the population moves away, farms are abandoned, roads and other public improvements deteriorate, and whole townships and even counties are impoverished.
>
> A few individuals may have realized handsomely from the speculative enterprise. The community has been gutted of its principal capital.
>
> This is not an occasional occurrence. It is the history of millions of acres of land unproductive and now an economic desert.
>
> We have been discusing these problems for many years, but we have made little progress in securing the right handling of private lands.
>
> I urge that those interested in the forest problem join in bringing about some definite and conclusive action.—"Conservation."

CONSTRUCTION

A · JOURNAL · FOR · THE ARCHITECTURAL
ENGINEERING · AND · CONTRACTING
INTERESTS · OF · CANADA

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Architects and Architectural Issues

Architects are going to advance their affair only to the extent to which they consider the issues before them and the degree to which these issues are discussed and some unanimity of opinion arrived at concerning them. Very little will be accomplished otherwise. No association can be more than an association in name unless it receives the collective and active support of the members who comprise it. What is needed in the architectural circles of Canada is more of the enthusiasm and earnest debate which was evident at the Toronto meeting of the R.A.I.C. and O.A.A.; more addresses of the character which were delivered and more of the splendid feeling and tendency among members which was displayed at the meeting to fully discuss all questions.

The convention at least afforded an exchange of viewpoints which should lead to a much better understanding and some definite course of action in shaping an effective policy. The spirit of the discussions and the enthusiasm manifest should not be permitted to extinguish itself in the months which follow. The publicity committee gives promise of doing effective work and should at the earliest possible moment set its machinery in motion. "Registration," "Adequate Protection for the Profession," and the "Conserving of Technical Opportunities" are questions which should be thrashed out with a view to determining which best represents the profession's welfare. Steps should be taken to get in touch and unite in some plan with all other bodies having mutual interests and objects. Of course all this implies well attended meetings, but that is as it should be. Members who attend meetings are certainly of more assistance to the association than those who simply pay their fees and stay away. The necessary thing is co-operative work, a full discussion of issues, unanimity of opinion and action. If this is realized the objects of the association will come closer to being achieved and the association will become a real factor in the accomplishment of tangible results.

◆

First Pan-American Congress of Architects

Mr. A. Frank Wickson, the president of the Royal Architectural Institute of Canada, has been appointed by the Executive Committee of the First Pan-American Congress of Architects, which will be held at Montevideo, Uruguay, South America, on the 1st to 7th March, 1920, to form a Congress Committee for Canada.

The matters to be discussed at the First Pan-American Congress of Architects are the following:

1. Transformation, expansion and embellishment of the city of a type predominant in North and South America.
2. Construction materials proper to each country of North and South America. Adequate means of diffusing the knowledge of its nature and employment throughout the continent.
3. Would it be considered advisable that the exercise of the profession of architect should be reglemented?
4. Cheap houses, urban and rural, in North and South America.
5. Means of obtaining a higher artistic culture from the public for a clearer understanding of architecture as an art.
6. Professional responsibility of the architect.
7. Is it necessary that the teaching of architecture be carried out in special schools?
8. Founding of a Pan-American Perfection Institute for the architects.

9. Proper means to be adopted as a stimulus towards building.

It will be noted that the subjects selected are of a general character in both Americas.

The Executive Committee is headed by Mr. Horatio Acosta y Lara, president; Mr. Jacabo Vasquez Varela, vice-president, and Mr. Fernando Capurro, general secretary.

The honorary secretary of the R.A.I.C., Mr. Alcide Chausse, is in position to give all necessary information to any architect desiring more particulars.

Co-operating on Safety

By F. J. C. Dresser,

(Representing Associated General Contractors of America.)

It is only in recent years that any discussions whatsoever have been had in reference to the hazards of building construction, and aside from statistics issued by the several insurance companies, no organized effort has been made by the contractors generally to exchange ideas toward the elimination of accidents. However, the present day finds that several of our larger contracting organizations include a so-called Bureau of Safety, and their results have shown a remarkable reduction in the number of accidents, as well as an immense saving of lost time and money.

In order to develop a proper safety campaign for the particular job in hand, an analysis is necessary, for the work itself is suggestive of the major portion, or rather kind of possible accidents you will be obliged to combat. I do not mean to say that you can immediately eliminate all accidents, but certainly a study of former accidents on a similar piece of work will help greatly in a reduction of accidents on future work. To just such work, namely, analysis and issuance of instructions, is a safety bureau dedicated.

Of course, there are and always will be special pieces of work that must be accomplished which are different from any former, but I still maintain that the same fundamentals apply and that an analysis still can be made and preventive measures applied.

To follow this discussion briefly, and to support the former statement that the work in hand will suggest possible accidents, it is evident that the sewer or grading contractor, for instance, can, by a series of test holes, determine the character of soil he is obliged to excavate, and plan his working methods accordingly. Such procedure will tell him quickly what he must provide in the way of equipment and protective measures, and has the further advantage of not catching him unawares as far as unforeseen ground conditions are concerned.

The present day of multiple-story buildings, when radical changes in their construction methods are being employed, finds us facing the source of the greater number of accidents, as is attested by the high insurance rates. Usually the public comes in for consideration, as far as safety methods are concerned, and in fact no other class of structure requires more consistent planning or forethought as regards accident prevention, unless it be in tunnel or subway work as installed in our larger cities. For this work it is plain that proper and substantial equipment must be provided, that possesses a good, safe factor; the sidewalks and streets must be covered; riding loads and in hoists must be forbidden; stairways and ladders must be liberally provided; mechanical safeguards installed; rapidly moving load lines and signal cords boxed or otherwise protected; safety belts and scaffolds provided; and even a man's clothing must receive attention, for many a man has lost a hand by reason of his wearing a gauntlet glove, and others have lost arms and life because of a loose sleeve or glove which dangled into revolving drums, or shafting, or which were caught by a broken strand in a cable.

Heavy foundation work requires the same care in accident prevention study, both in bridge and in building work.

Pile driving is another hazardous piece of work, where moving timbers and lines are responsible for many avoidable accidents.

Wrecking and underpinning are other sources of accidents, and more numerous undoubtedly than should be because they do not receive the attention of an engineer as regards a plan, or in other words, the average wrecking contractor does not have a staff or an engineer in his service to make calculations before doing work. As a result, defective material is often used and insufficient underpinning installed, causing accidents, of course.

Heavy rock excavation requires care in handling dynamite, and precaution against flying rock and destruction of property.

Industrial building work is the source of possibly the greatest variety of accidents, but usually not as disastrous to life and limb as the previously mentioned classes of work.

An analytical study in the direction of safety, no matter what the class of work, will certainly produce results if undertaken with the same spirit in which a construction engineer plans his layout and schedule.

Employees

In a large measure the application of safety methods depends on the employee. The more intelligent, the less liable is he to accident. In this respect, the ironworker or steel erector is possibly the most versatile in that he thinks of the possibilities of things happening in connection with the work in hand, and is not so easily caught unaware. The brickmason and carpenter are usually on more substantial footing and inasmuch as their work is usually more regular, do not have occasion to give "possible happenings" much thought. No other mechanic requires good judgment more than the hoisting engineer, especially be he engaged on multiple-story building work or heavy bridge construction. The common laborer, however, requires more watching than the trade mechanics, and in this respect much depends on the intelligence of the foreman who directs his movements. All workmen, however, can be schooled in safety methods as has been demonstrated by leading contracting companies who have safety bureaus. For instance, Fred T. Ley and Company began this work in 1915, and their reduction in accident rate per 1,000 employees for 1916 was 25 per cent, and in 1917 was 55 per cent, which is indeed encouraging.

Character of Accidents.

Our records, from a recent piece of construction, which involved steel erection, heavy concrete, brick work, and grading, also trackwork, show, from a total of 242 accidents, that: 73 employees sustained bruised fingers from handling material, 37 employees sustained punctured feet from nails, 11 employees sustained cuts on head from falling material, 7 employees sustained sprained ankles, slipping and misstepping, 7 employees sustained cuts on hands, and the balance were minor injuries. This work comprised the erection of a large engine terminal, and this record conforms in the average to the class of accidents which we must safeguard against in the course of our regular industrial building construction.

I find in comparison with figures as derived by other concerns, that the accidents in the main are similar in character, but the percentages vary, due undoubtedly to the character of the work in hand.

The greatest number of accidents, we find, come during the handling of material, and are confined to hand injuries; second in number come injuries to feet from protruding nails; third, employees falling, by reason of misstepping or stumbling over strewn material, causing sprained or broken ankles, broken arms or legs; fourth, falling material, causing cuts about the body and broken limbs. These are the four main causes as we find them, and it is natural, therefore, that preventive measures be provided in the order named.

I believe it goes without question that a job properly planned, and scheduled whereby one phase of the work closely follows the other, where material is received and handled in the same order and where orderliness prevails throughout, is rewarded by the least number of accidents.

Receiving and storing of material is a study in itself, for naturally the best position must be selected for hoists, and also for storage. One should be near the other to avoid rehandling and increased costs, and minimum handling also reduces the possibility of accidents, as is plain. But often they are far apart, causing long runways to be built and arranged, in and out, around or through a building, as the case may be, creating a state of disorder and interfering with the other divisions of the work. The ideal, of course, is one where, for instance, structural steel can be placed from car to position, elimi-

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* Address delivered before the Eighth Annual Congress of the National Safety Council at Cleveland, Ohio.

20-Year Barrett Specification Roof on Hog Pens of Union Stock Yards, Limited, Toronto, Canada. Architects: Union Stock Yards, Limited. General Contractors: Archibald & Holmes, Toronto, Can. Roofers: The Maitland Roofing & Supply Co., McDermid Bros. Successors, Toronto, Canada.

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The above photograph shows the mammoth new Hog Pens of the Union Stock Yards, Ltd., Toronto, in process of construction.

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nating rehandling in field; and on large operations where space is available, this can often be done with steel as well as other material, if hoists and material tracks or roads are given some attention as to layout and position before work is started in the field. The main object is to eliminate distance, for work is really distance versus resistance, as the definition goes, and the further application of all possible mechanical means to handle material from cars or wagon to position is another factor which results in a great reduction of accidents.

Our second consideration being given to nails, we find that orderliness in handling of lumber containing protruding nails, eliminates foot punctures by the score. Plank or forms of this character should be stacked with nails down and not be allowed to be strewn all over the job. In order to re-use the plank or board, the carpenter must drive the nails back, and their removal as soon as the plank or brace is taken down is undoubtedly the best practice. As regards concrete form lumber that has been stripped, if it has no further use in the building as fabricated, it should be stacked and nails removed by the cleaning gang, if there is one, as soon as possible to make it available for other use, for certainly the re-use of lumber these days is economy, and a carpenter usually will take a new piece rather than stop to remove nails. In a multiple-story concrete building, forms are usually stripped and immediately placed in position for the next floor, and the same applies to braces, so that the immediate removal or driving back of nails is necessary and foot punctures are made less possible than on the ordinary timber or house job. Elimination of strewn lumber will reduce nail accidents and its reclamation should be taken in hand at once in order to make it fit for re-use, which in itself will cause a saving in the final lumber bill.

To avoid employees falling, railings should be erected on staging and scaffolds; runways of sufficient width provided; and material generally should not be strewn promiscuously about the job. Openings should be covered or railed and good stable ladders built. Climbing up or down hoist towers should be forbidden, and all moving lines boxed so as to avoid tripping. Working aisles should be kept clear of waste and surplus material.

To avoid falling material, storage of the same should be confined to the interior aisles, and scaffolds provided with a sideboard to prevent brick especially from going over the edge

In discharging debris, closed-in chutes should be installed, wheeling runways to be of sufficient width and overloading of wheel-barrows forbidden, especially when brick are being moved.

Naturally the safety movement must begin with the management itself, and if contractors generally will review the results obtained by those contractors who maintain Safety Bureaus, they will readily see that it is a paying branch of the organization. The gratifying results obtained by Fred T. Ley and Company, of which Mr. L. D. Woedtke is Director of Safety, have already been mentioned. Inasmuch as the work covers a period of only three years, they are indicative of the immense amount of good work that can be done in accident prevention in general contracting, as propaganda of this kind is really in its infancy in this field.

The next step for an organization to undertake is the addition of a Safety Bureau, under whose direction the work is carried on. The first consideration must be given to the field organization itself, meaning the engineers, superintendents and in fact the entire rank and file, for co-operation must exist; and foremen generally must see that the safety rules are observed.

As a further matter of co-operation, the construction department should turn over to the safety man a complete schedule of the job in hand, showing the progress expected, this being the first step. Second, a set of safety rules should be issued applying to the work or particular job in hand, which are set up after due analysis of the conditions which are to be met. The third is, of course, the enforcement and application of these safety rules.

First of all, any job employing 125 men or more, dependent, of course, on character of the work and location, should have a first aid attendant and small field hospital We find it pays decidedly by eliminating lost time.

Second, the job organization should appreciate thoroughly the meaning of this safety work and they will in the end discover that lower unit costs will result from the observance of the safety rules.

To educate the workmen themselves can be done in different ways, and first of all, I believe they should be taught to observe safety rules provided as a precaution against the first or possibly the second classifications, which are most liable to happen. Their education in this respect should be gradual or progressive as the work goes on, and the foreman, of course, should see that the rules are observed.

Descriptive photographs are an immense help in avoiding accidents, and educational work, and should be in keeping with the class of work in hand.

Periodical bulletins help greatly, as do also signs which should be of such size and meaning as can be understood by all. A sign that can be read only a few feet distant is not of much use; it should be readable at a considerable distance—the farther the better.

Around the plant generally, guards should be built which will eliminate the possibility of employees coming in contact with the moving parts and lines, and the same consideration must be given to hoists and hoist lines. To operate plants efficiently requires good mechanics, and a contractor who maintains a staff of experienced operators in connection with his organization has done much toward the application of safe methods, for the accident, as a rule, happens to the green man, no matter whether he be mechanic, laborer, or machine operator, and it is necessary to observe such men very carefully, until such time as some experience has been gained.

Safety rules further will establish under what conditions a machine is to be operated and how, and will also establish signal codes to be observed, for very often the operator cannot see the other end of the line or the top of the hoist, as the case may be.

At any rate, common sense application tells us that above all else you must have experienced machine operators, and none other should be permitted to be employed, yet many times you will find some man out of the gang running a machine, the principles of which are entirely foreign to his understanding.

The whole work, however, as regards both employees and equipment is to be reviewed and inspected by the Safety Engineer, who will suggest precautions and safety rules that are to go hand in hand with the working methods decided upon for the handling of the job. This is further beneficial inasmuch as a man from general headquarters sees many things that a man on the job does not deem important.

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CONSTRUCTION

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NEW MEMORIAL SCHOOL, HAMILTON, ONT. 332

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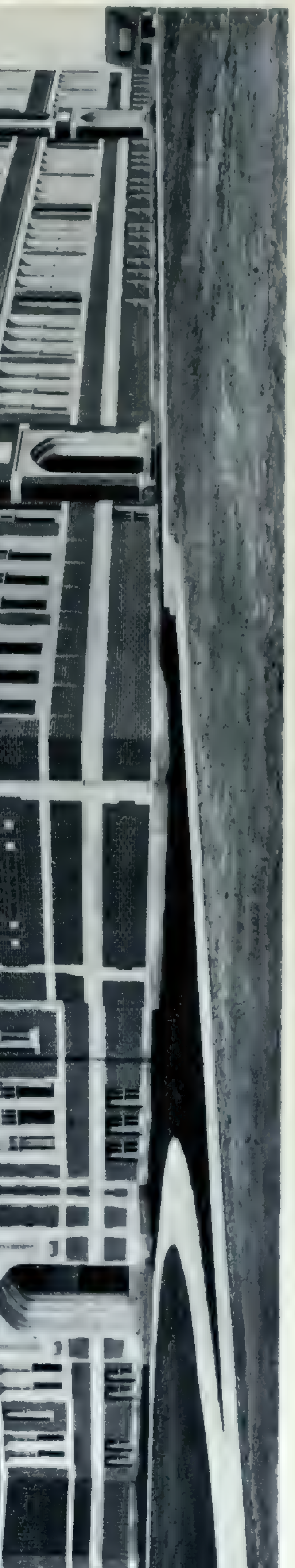
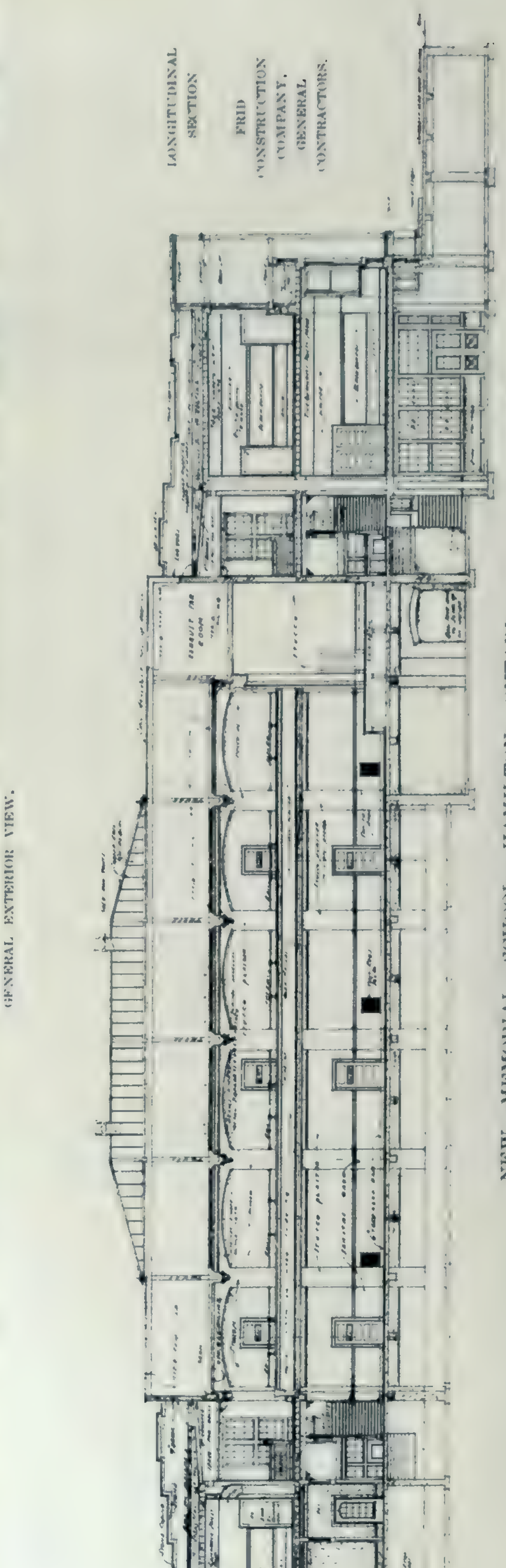


GENERAL EXTERIOR VIEW.



LONGITUDINAL SECTION

FRID CONSTRUCTION COMPANY, GENERAL CONTRACTORS.

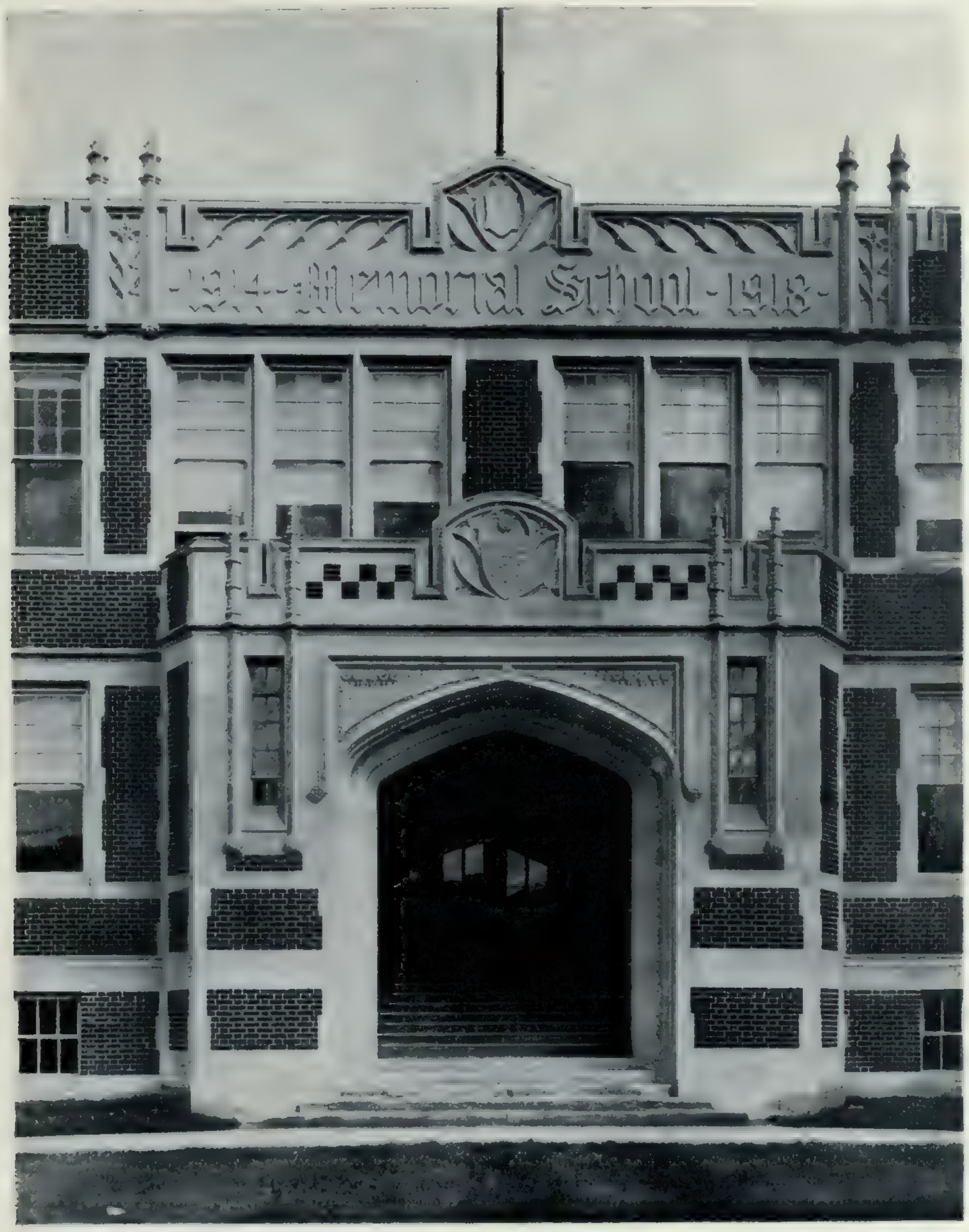
NEW MEMORIAL SCHOOL, HAMILTON, ONTARIO.

GORDON J. HUTTON, ARCHITECT.

New Hamilton (Ont.) Schools

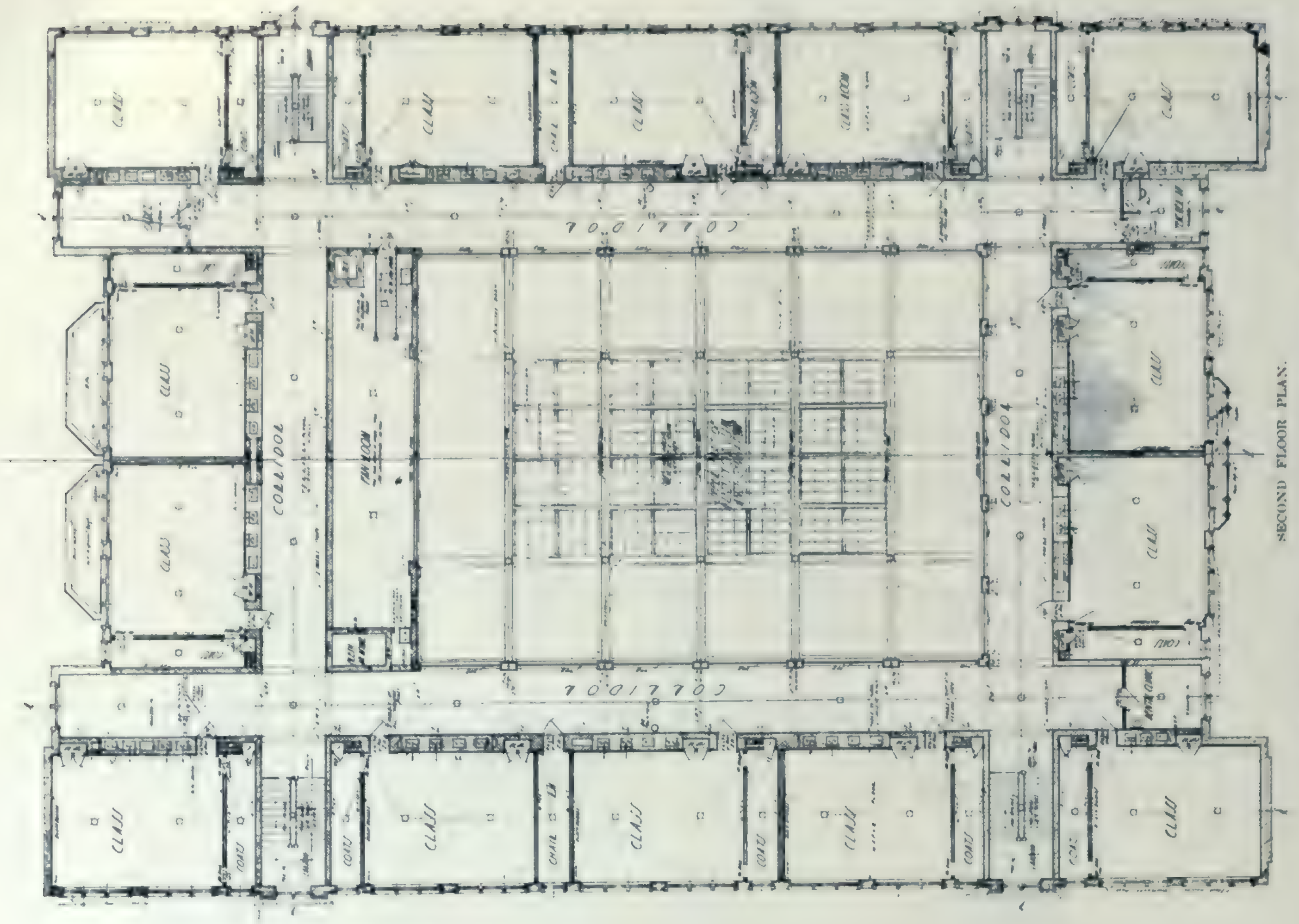
TWO new educational buildings opened this season at Hamilton, one entirely completed and the other partly carried out, are unique in features of design. One is the new Memorial School, the first building of its kind in Canada, or perhaps elsewhere, dedicated to this purpose, and noteworthy on account of its somewhat unusual plan; and the other the partly finished Technical School, which is distinctly industrial in architectural character, and which when eventually completed will be several times its present size.

The Memorial School is practically of reinforced concrete construction throughout, the design being carried out so as to give the class rooms a continuous overhead span which eliminates any beams in the ceiling. Its principal feature is a spacious central auditorium. Instead of following the usual plan of placing the rooms along a longitudinal axis, the class rooms are arranged around a large central quadrangle which is used for auditorium and gymnasium purposes. This entire inner square is taken up by the auditorium and the corridors which surround it, the latter connecting with several entrances which give convenient access to the building and the various class rooms.



DETAIL OF MAIN ENTRANCE: MEMORIAL SCHOOL, HAMILTON, ONT.

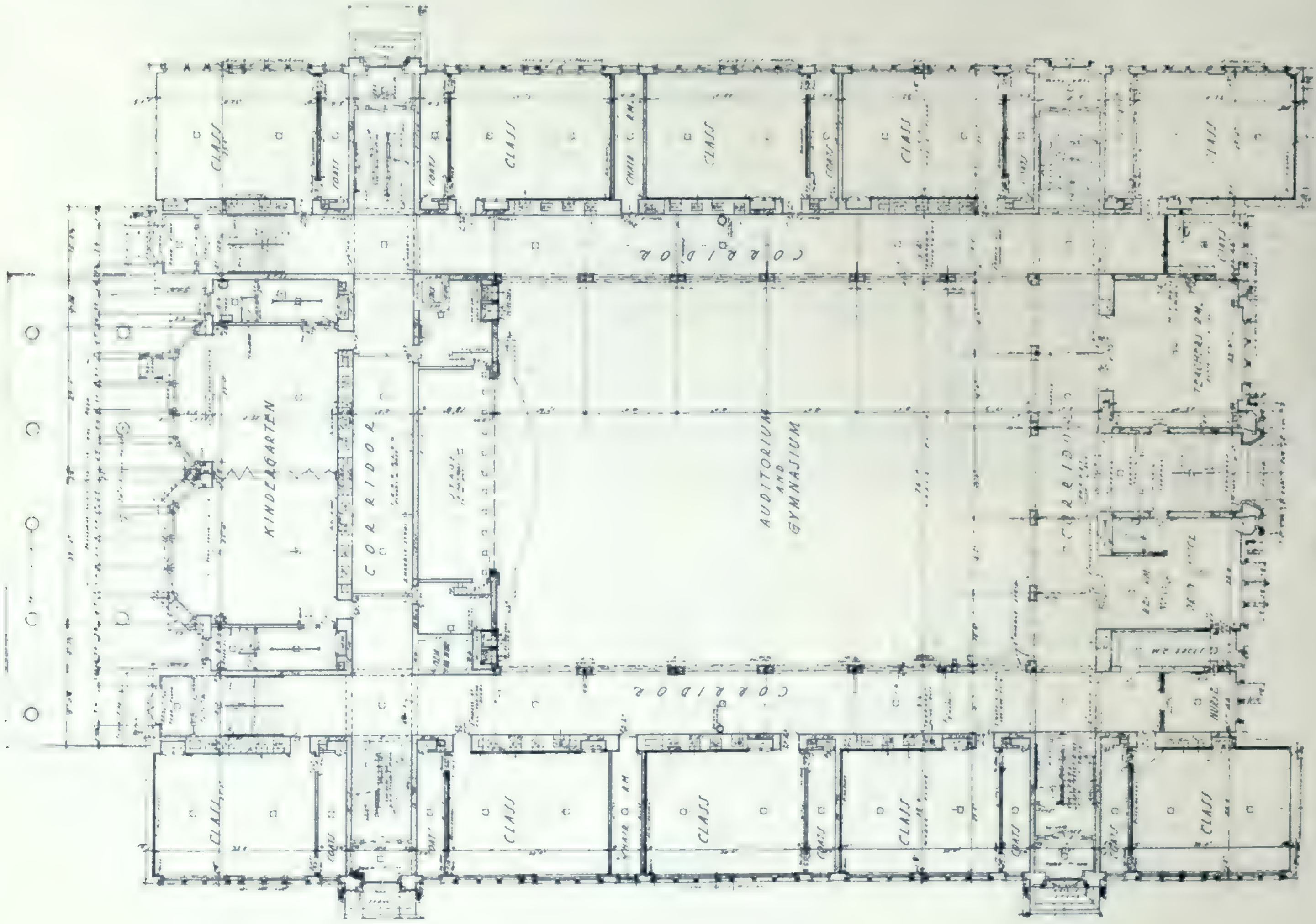
Externally the building is impressive both as to size and architectural character. The exterior walls are all terra cotta tile, faced with rug brick laid with a flush join in Flemish bond, and trimmed with carved stone detail. The



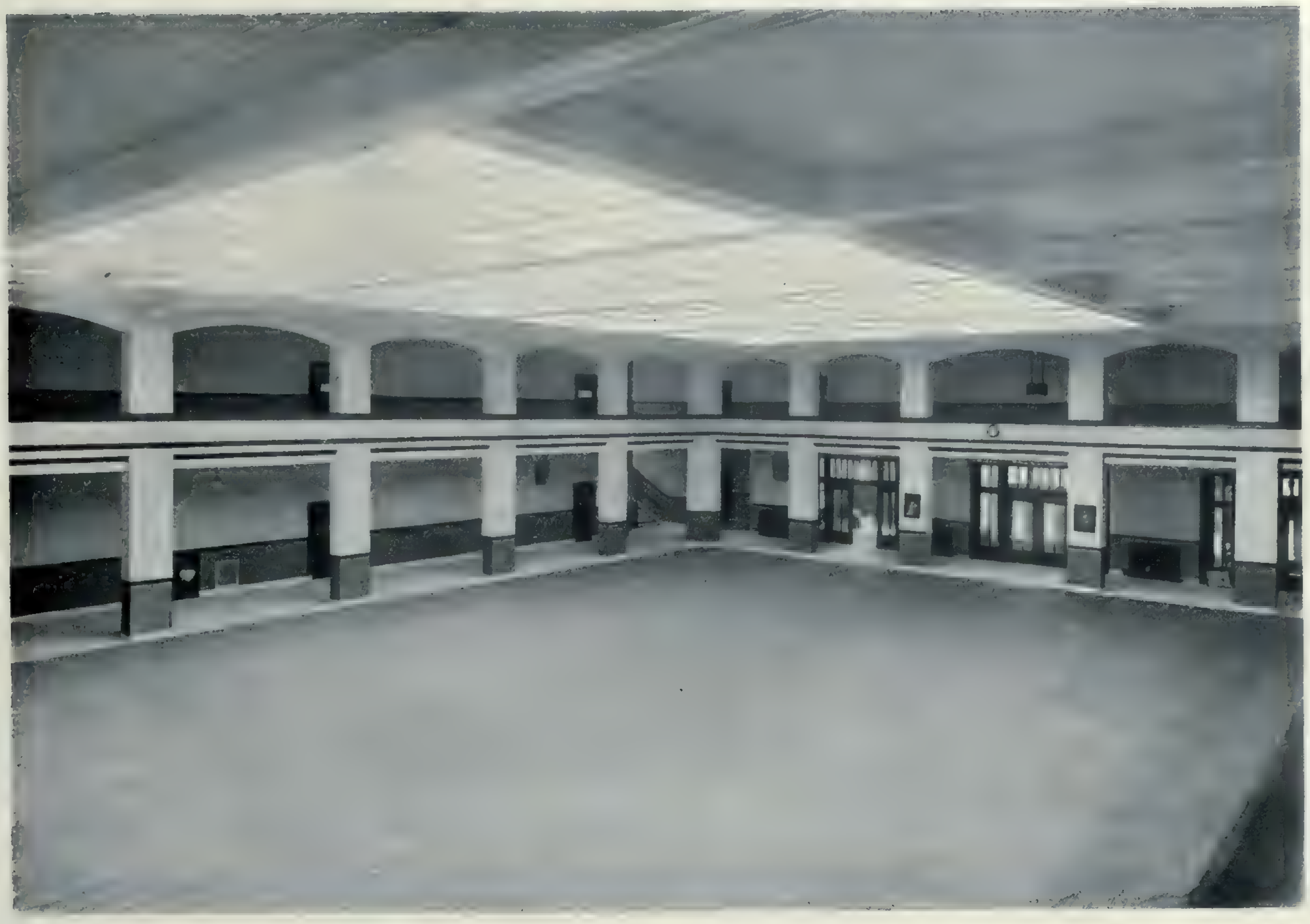
SECOND FLOOR PLAN.

NEW MEMORIAL SCHOOL, HAMILTON, ONTARIO.

GORDON J. HUTTON, ARCHITECT.



GROUND FLOOR PLAN.

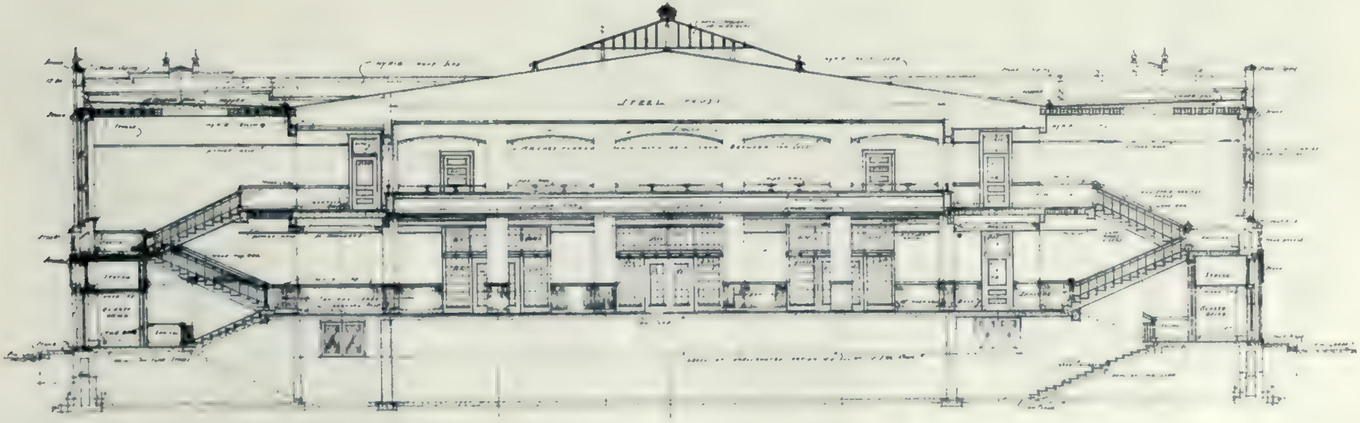


GENERAL VIEW OF AUDITORIUM: MEMORIAL SCHOOL, HAMILTON, ONT.

wainscotting in the main entrance and the staircases are of marble. On one side on entering is the teachers' library and sitting room, with coat and toilet room adjoining, and on the other the principal's room, public reception room, stationery and supply room and nurse's clinic. There is a master 'phone in the principal's office connecting with an inter-communicating system extending to all class rooms.

The class rooms are all soundproof, all partitions being of hollow tile. Each class room has its own coat room, and there is also a book cupboard built in flush with the wall and a private clothes closet for the teacher. Sanitary wainscotting runs to the height of the blackboard, and is also used in the corridors, the plaster finish in the class rooms being a smooth putty coat, and in the corridors and auditorium of stucco.

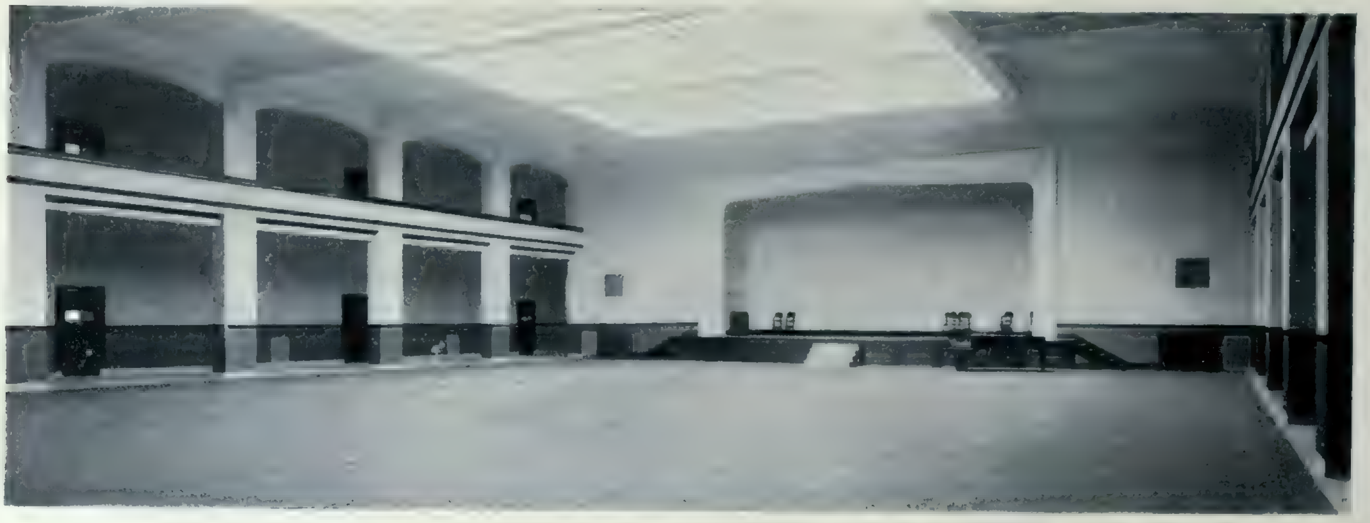
The only woodwork in the building is the floors of the class rooms, doors, trim and window frames. The auditorium is spanned by steel trusses, which eliminates all columns in same, with the exception of the colonade which surrounds this space. The floors of the corridors, toilets, dental clinic and nurse's room are of terrazzo, with a six-inch base of the same material. All class rooms are floored with maple



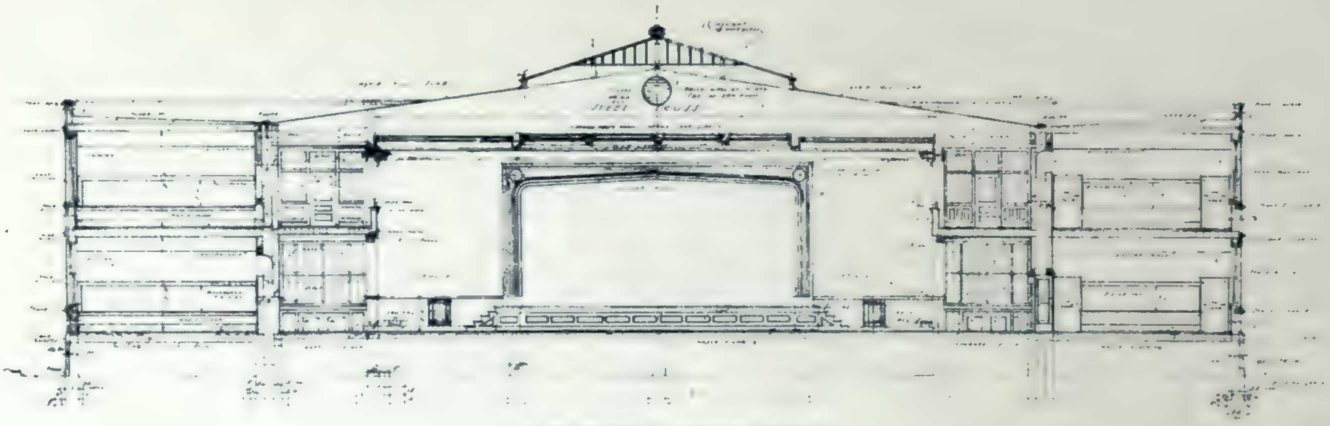
CROSS SECTION, LOOKING SOUTH.

and trimmed with Georgia pine, stained and varnished. The doors and trim in the corridors and auditorium are of ash, the auditorium floor being of maple, the intention being that it will be used at times for gymnasium work.

A feature of the second floor corridor is a series of arches which form a gallery looking down into the auditorium and giving an excellent view of the entire central space. The auditorium, which has in all a seating capacity of over two thousand, is lighted by a skylight about two-thirds its size, and has an obscure glass ceiling. The artificial lighting is done by reflectors, which are placed behind the ceiling screen, there being no electric fixtures visible.



VIEW OF AUDITORIUM, TOWARD STAGE: MEMORIAL SCHOOL, HAMILTON, ONT.



CROSS SECTION, LOOKING NORTH.

The building is heated by a vacuum steam system, and ventilated by an automatic fan system with temperature control to all class rooms. The fresh air is drawn in from the roof by a fan in the basement, and is thence cleaned and heated and forced through ducts to all rooms, the foul air being taken off by an exhaust fan which is placed under the roof.

THE NEW HAMILTON TECHNICAL SCHOOL.

As regards the new Hamilton Technical School, it is quite another type to the building just described, as well as different to the usual design of technical school buildings. The site, comprising six acres on Wentworth street in the heart of the city, was purchased three years ago by the Technical Committee of the Board of Education, and ground was broken in the spring of 1918 for the erection of the first unit. This unit is now nearing completion, and will be ready for the official opening some time in January, 1920. In the meantime, both day and evening classes are being held, with an enrollment of 400 for the day and 2,200 for the evening classes.

The new Technical School building is distinctly a factory building. It has been put up according to the best known methods of factory construction. The building faces Wentworth street, and has a frontage of 100 feet. It runs back 120 feet. The structure is four stories high, and is built of reinforced concrete, with supporting pillars thirty inches in diameter dividing the building into bays twenty feet square. The exterior has a veneer of pressed brick. The sash throughout is of steel, with standard factory pivoted sash for ventilation. The ceilings and pillars have been painted a gloss white of three applications.

The front section of the school is divided into class rooms of standard size divided by tile partitions, while the rest of each floor, consisting of space 100 feet by 60 feet, is devoted to trade shops. The partitions in this part of the building are of wood, with glass at the top.

Ventilation for class rooms is provided for in the basement, running the length of the front of the building, in which is located motors and fans. There is a motor and fan for each room, and this may be controlled by the teacher, who has but to step to a switch, press a button and the current is on or off.

There is an inter-departmental 'phone system throughout the halls and class rooms, and a time recording clock with gongs that ring automatically on each floor the different periods.

RECEPTION ROOM: MEMORIAL SCHOOL, HAMILTON, ONT.

Heating is provided by three boilers producing low pressure steam, which is carried from the heating plant to hot water converters located in the basement. The heating is hot water, with standard radiation throughout. Lavatories and washrooms are fitted with standard fixtures.

The class room floors are hard maple over concrete, the halls terrazza and the shop floors concrete, with the exception of the first floor. The machine shop, oxy-welding and motor mechanics classes are held on the first floor, which is made of wood blocks laid on concrete. These blocks are standard blackwood paving blocks, which make an excellent shop floor.

The new school, although incomplete in many particulars, marks a new departure in Technical School construction. In the first place, the Hamilton Technical Committee chose to build according to the unit plan, instead of the block plan. This first unit was constructed for the accommodation of shops required in trade instruction. For the present, the academic work will be carried on in the front class rooms, but eventually the entire space on each floor will be occupied by trade shops. There are no wall-bearing partitions in the building, and this will permit of expanding each shop to meet the growth of the school.

The plan of Technical School buildings provides for a main administration building joining on to the present factory unit. This main building will be more ambitious in architectural design. It will be the central building in whatever buildings it may be found necessary to construct to meet the growing demands for technical education in an industrial centre such as Hamilton. The main building will contain class rooms, offices, auditorium, gymnasium and laboratories. According to the plans, all buildings will be so located that a large space will be left on the six acres for an athletic field. The layout of the present first factory unit of the new Technical School provides the following accommodations:

Ground Floor: Temporary office, study room,

KINDERGARTEN ROOM: MEMORIAL SCHOOL, HAMILTON, ONT.

class room, machine shop, oxy-welding and motor mechanics.

Second Floor: Three class rooms, teachers' room, painting and decorating department, cabinet-making and general woodwork, carpentry, pattern-making, lumber storage and demonstration class room for carpentry, cabinet-making and pattern-making.

DETAIL OF EAST ENTRANCE: MEMORIAL SCHOOL, HAMILTON, ONT.

Third Floor: Two class rooms, physics laboratory, printing department, architectural drafting department for evening classes (used for drawing in day course), apprentice department, electrical laboratory, practical electrical work, sheet metal work and plumbing.

Fourth Floor: Chemical laboratory, physical laboratory, apparatus room, class room for girls' department, sewing, millinery, cooking and drafting.

The present building serves admirably the purpose for which it is constructed. It was planned and built as a factory unit, and should not be compared with school buildings which have been constructed on the block plan. It will be only a matter of a year or two before it will be necessary to construct the next unit, the main administration building. No institution in Hamilton so meets the need of workers in such a growing industrial centre, and the Technical Committee is to be congratulated for having the vision to undertake the construction of the Technical School according to plans which provide adequately for future growth.

School Wardrobe Ventilation

About a year ago, the Board of Health of Detroit, Mich., was requested to investigate the practice of exhausting air from school class rooms, through the wardrobes and to report to what extent the results of such practice were detrimental to the health of the children.

The problem, naturally resolved itself into two components: First a study of the extent to which dust is deposited or filtered out on the outer garments hung in the wardrobes and the possible danger of such dust, and Second, the possible transmission of germs of communicable diseases through the medium of the outer garments. The investigation by the Board of Health was carried on at the Duane Doty School, being a typical example of that class of schools ventilated in this manner. Observations were not made at other schools as the general principles applied to all of those of this class.

The Doty School is mechanically ventilated, air being drawn from above the roof through an air intake to the basement heated and discharged into the room at the rear about 8 feet above the floor, at the rate of about 1,500 cubic feet per minute. The air is forced well to the front of the room, and travels back through the breathing zone at low velocity and leaves the room through the wardrobes at the rear, the sliding doors of which are so arranged as to leave an 8 inch by 36 inch opening at the floor. About 60 per cent. of the air supplied finds its exit this way. The rest is lost by leakage through windows and doors.

To determine the amount of dust present in the air, a method devised by Dr. E. Vernon Hill, was employed, consisting in microscopically counting the dust deposited on a cover slip from a known volume of air. The average of the observations made show the following results:

Number of dust particles per cubic foot in air entering room, 24,000; average number of dust particles per cubic foot in air in front of room in breathing zone, 26,200; average number of dust particles per cubic foot in center of room in breathing zone 32,600; average number of dust particles per cubic foot in wardrobe, 16,400.

NEW TECHNICAL SCHOOL, HAMILTON, ONT.: VIEW SHOWING FIRST COMPLETED UNIT. STEWART & WITTEN, ARCHITECTS.

It is evident from these and other observations, that the amount of dust in the wardrobes is not so great by 50 per cent. as in the room, and that the children's garments hanging in the wardrobes are as safe from dangerous dust as they are when hanging in the average home and safer than when being worn upon the street.

To determine the danger of transmission of communicable diseases, bacteriological examinations of the air were made by exposing nutrient agar plates at various locations, for periods of 2 minutes, incubating 48 hours at 37 degrees C. and counting colonies. The minimum count of those plates exposed in the room in the breathing zone was 5, the maximum 48, with an average of 15. The examination does not show any stratification.

The result of the analysis in the wardrobe show the minimum count to be 7, the maximum 48, with an average of 16.

It is noticeable in this instance, however, that plates taken above the clothing at a height of 5 feet from the floor frequently show a count in excess of a plate simultaneously taken near the floor, there being some evidence that the clothing gives some dust and some bacteria to the air.

It is conclusively shown that the clothing does not act as a filter to any appreciable extent, and that the danger of contact infection from child to child or of droplet infection by coughing or sneezing greatly outweighs any possible danger of transmission by means of outer garments.

All of which facts lead to the conclusion that the practice of exhausting air from the school room through wardrobes cannot be considered in any way detrimental to the health of the children.

War Memorials

An Address by Professor Percy E. Nobbs, before the recent Joint Convention of the R.A.I.C. and O.A.A.

IT is a great honor to share with the housing experts the duty of making an address on one of the two new staple industries which the war has brought to us architects. I am afraid I cannot just keep to the letter of the law in speaking of war memorials in relation to town planning. I am one of the people who do not know anything about town planning. As to war memorials, I think we would do well to define two very distinct types. I suppose the greatest and most successful war memorial that was ever achieved was the foundation in 1437 of All Souls College, Oxford. In that particular war memorial, architecture has only a place in so far as buildings are essential to its utilitarian purpose. For it is a college for the education of statesmen, dedicated to those who fell at Crecy, Agincourt and those battles, and the dedication is as follows:—

> "The College of all the souls of the faithful departed, and especially the souls of Henry V, King of England and France, and of the faithful subjects of his realm who died in the French Wars."

Now we are going to have lots of war memorials of a kindred kind. That is to say, instead of society erecting hospitals and institutions of various kinds to the memory of defunct traders, or maiden ladies, who leave the money for such purposes, there will be a tendency to link such benefactions with the war. There is very little scope for the kind of war memorial I am now proposing to talk about, in cases of that kind. All you can do there is to do what the clerks of Henry V's time did so well, and that is, made a glorious dedication, for in the case of All Souls the war memorial—the work of art—the essential monument—is the glorious dedication.

There is another kind of war memorial, woven into the very forms of the masonry and where the ideas connected with the war may be into the sculpture and decorations of the object; where the utilitarian aspect is of secondary consideration,—where a monument, not to the social needs of the time, but to an idea connected with the war, is the issue. That is the kind of war memorial I propose to speak of, and there are a great many difficulties that arise, and the greatest is to find out just how the public who will pay for a memorial feel about what has happened in the last five years.

It may be useful to consider some of the larger memorials that have already been decided upon. Take the National Scottish Memorial by Sir Robert Lorimer, which, I understand, will take the form of some additions to Edinburgh Castle. The old barrack on the west side up on top of the rock will be converted into a war museum, and as that barrack is a monstrous affair that is, I am afraid from its very nature, past all human help in the way of improvements, the intention is to add some cloisters and something in the way of an entrance, and at the same time to avoid spoiling the magnificent skyline which Nature and certain accidental accretions in the way of buildings have given to the City of Edinburgh in the castle. The cloister, according to published drawings, will be a neo-Gothic affair of extreme severity and simplicity.

The great school at Winchester has had some troubles over its war memorial, a chapter of adversity which obtained a great deal of publicity about a year ago. They finally decided upon more cloisters. Again we will have some neo-Gothic construction, and as little as possible will be done to spoil the amenities of existing buildings. The chief concern in these cases seems to be not to celebrate the war, but to do no harm to what exists. So there is nothing very great to be expected in either of these war memorials.

Now, having drawn the lucky number in connection with the competition instituted by the Government of Saskatchewan in this connection, I have just been to the West, and I was surprised and much enlightened to find a point of view taken by that Provincial Government which was quite new to me. The idea there is to centralize the whole effort of the Province in one substantial memorial, where local feelings will be duly considered in connection with the lists of the fallen by arranging them by localities as well as by units. That is the action of a very paternal kind of Government, and there is a great deal to be said for their way of dealing with this problem.

There is a strong feeling also, I think, among some of you gentlemen in Toronto about the necessity of doing something to protect the public from itself in connection with war memorial schemes. There is on the one hand the danger of allowing anything at all, including some things which we will regret, to happen, and on the other of taking all spontaneity and life out of the efforts.

In the city of Caraccas there are many war memorials, most of them taking the form of a pedestal with a heroic statue on it. All these people whose statues we see there are "liberators" of the country. They have had a great many little civil wars there, and every time such a war occurs they have a liberator of the country as a result, and every time they have a liberator they give him a statue. There are liberators with their hands upon their hearts, and liberators sword in hand, there are liberators on horseback with the horse at attention, and others with the horse "high curvetting." They also have a building, suggestive of ecclesiastical purposes, in which there are more liberators—about thirty-five of them. The outside liberators are mostly made of brass, and the inside ones are of marble. That is, of course, one of the natural results when a warm-hearted people, true to Latin traditions, have some sort of official organization to take care of their artistic culture and administer their fine arts.

On the other hand, take what is happening in Canada, where we have a condition of affairs at the other extreme. It is here possible for a sculptor to go round hat in hand on his own account collecting for a project on the execution of which the whole amenity of a public place may depend. Now, under present conditions it does not matter whether that sculptor is one of the heaven-born who can make stone to breathe and bronze speak for all time the things which cannot be written, but can only be breathed, or said in stone and bronze, or he may be some cheery vulgarian who has already destroyed the amenity of public places with calumnies and libels on soldier-men of former wars. It does not matter, he can go round hat in hand to the rich dry goods men, and because during the last five years these dry goods men have been selling cotton goods at the price of woollens, and because they know that the poor sculptor, good or bad, has been having a tough time of it during the war, one shells out, and then another, who cannot have his concern outdone in patriotism or charity, shells out too, and that is the way certain memorials may happen in Canada. That is the other extreme, gentlemen.

The question now arises, can we as an association do anything to help? There are a lot of ways in which we could try, but the question is, will they help? That is a matter for discussion. I am putting things in such a way that I hope discussion will result either here or informally afterwards.

The public at the present juncture is very anxious to do something, and they don't know what they want to do; they are really quite open to guidance, but as our friends found in connection with the housing schemes, they are perhaps a little suspicious of the architectural profession.

It will not do, in connection with these projects, for us to try to ram what we think suitable sentiment down the throat of the public. The great thing is to find out what the public wants to remember about the war and help them to immortalize their feelings.

Do they want to remember the savagery and dash of a bayonet charge? A very good subject, which my friend Tait McKenzie has put into plastic form in a group of men getting out of a trench, and he calls it "Over the Top." Now, that is one quite distinct war spirit which can be immortalized or made permanent in art if it is wanted.

Most people who were "over there" have a profound admiration for the people who were not, because they know quite well that the harder work was done both in soldiering and in general organization, and so on, a good long way from France, and the enormous labor that the munitioning represents is surely something which could and should be expressed in art.

Then again there is the domestic side of things. I saw a charming panel the other day in a sculptor's studio, in which a woman with a child in her arms seemed to be opening a little rather empty cupboard near the door, and there is a dog poking his nose at the corner of the door. A dramatic thing, and it happened to be handled with wonderful sweetness.

Then there is the matter of leadership. I suppose, although we made the war for this or that or the other purpose, and among them to do away with militarism, whatever that is, and for a few other propagandist ideals, still some of us want the leaders to have statues somewhere, and one only hopes that genius will be found that can indicate leadership without always putting a man in review order on horseback.

Then there are all the aspirations and the idealistic inspirations that were the subject matter of recruiting propaganda, and which are so much poppycock and tommyrot and nonsense. I know of no man of the many hundreds and thousands with whom I came in pretty close contact when soldiering who was instigated to get into uniform by the kind of sentiment that the Press was using from the beginning to recruit the forces. I think all this was entirely on the wrong lines from start to finish, but there may be people who desire that some of this ultra-high and hollow inspiration to fight (when it was a matter of common sense that we had to fight or go under) should be immortalized. And the world being now free, I cannot prevent them, but I won't help them.

Then there is the mystery of regimental glory, one of the things which appeals most strongly to everyone who ever wore a uniform. Men die, but the regiment goes on, and the badges of the new regiments have reintroduced a living element in heraldry which is the very foundation of decoration. And we have the great sense of the losses felt by communities, and apart from the losses of this or that community, we have the terrible realization of the great legions of the dead—all the dead in the war.

And again we have those deeds of extraordinary heroism which make the tales of heroes and demigods, such as David and Goliath, and all those things, absolutely true and real again.

And, lastly, there is that primitive passion which I think is one of the things about which the people who speak most feel least, but it is a very true sentiment for all that to many, and can be described simply as the hatred of the Hun. This sentiment, by the way, was most peculiarly rare throughout the combatant forces of the British Army and of the Canadian Corps in France.

You can perpetuate any or all of these ideas in art, and in doing some of them you will be attempting to perpetuate things which were not, and our immediate problem is how to mobilize the artistry which is competent to deal with these ideas, because the public is quite willing and anxious to pay for it.

Now, we architects are fairly well organized; we have a more or less clear understanding as to what we can do and what we cannot do in poking our noses into each other's business, and we have an established custom in regard to the management of competitions, where competitions are necessary, as in some cases they are. But the sculptors have not as yet these advantages of professional organization, nor the painters either, and I think the right attitude for our profession to take is that sculptors and painters are not practicing our sister arts, but that these are the daughter arts, and that we who practice the mother art can do a very great deal to help them. Nor would I restrict the thing to sculptors and painters, because there are the glass stainers and the bronze founders and the iron smiths, to say nothing of the stone masons and the embroiderers. And the public has not the faintest idea that all these people can be enlisted in this service of expressing their deepest feelings for them. The public would like to get a sculptor to do something, and the public's chief idea is so many cubic feet of stone with a brass soldier on top of it, and if there is a guardian angel or an inspiring angel or a glory angel or something of that kind, or a Winged Victory urging him on or holding him back or attracting his attention to the business in hand, so much the better if it can be got for the money. That is really about all that the public knows about these things, and if the public starts running competitions on what the public considers square lines for the poor sculptors (who cannot take care of themselves), a good deal of bad art is likely to result. I know the ins and outs of several competitions for statues occurring during the last fifteen years, and some are a sad commentary upon human nature.

Now, there has been talk of committees to do this and committees to do that, and, Mr. President, I think that if we start too many committees going we are only helping the world to the condition in which Russia finds itself today. The great thing is, in my mind, to use our constituted machinery. We have the standing rigging, let us say, of this organization, with a President who can speak impersonally as President of the Institute in the name of the architects, and we have in every province a president of an association. That is the standing rigging, and if some anonymous committees to advise with those gentlemen, in case they are flooded with problems of this kind, are required, the machinery is there for hoisting such sails to catch such breezes as may be blowing. I think more good will be done along those lines than by initiating new machinery and a "bureau," as it is now the fashion to call every new piece of machinery that has an office at Ottawa.

One thing that the war has taught us, among the many, is the use of propaganda. Drop, drop, drop, and you wear away the stone. One way to manage a little propaganda on this subject would be to have a paragraph, let us say of forty lines, appear every day for a fortnight in all the principal papers in Canada, and it will be taken up by the others, provided the story is intelligently put together. I think the press in a matter of that kind would see that it was to their own advantage to publish interesting matter provided free. Now, such things could be signed by the President of the Association, and the address of the President could be given, if the public desire further information.

Articles might be on matters of this kind, or possibly the President in his wisdom, with the aid of his council, might think of better subjects, but these occur to me at haphazard: Forty lines on the subject of Canadian sculptors. I don't know whether there are any sculptors present. You all know there are not a great many; the number of sculptors in Canada is very small; you could say quite a lot about each of them in forty lines. Then a little story could be told from an actual case to show in article No. 2 how sculptors are dealt with, how they are paid, where the stone and so on comes from (supposing it is a stone and bronze thing), and when the sculptor is to be paid for his models. The public doesn't know what the sculptor does for his pay. They tell him they want a soldier doing so: (Registers fierce valor), or an angel doing so: (Registers peaceful benignancy), and the sculptor is expected to make it for them. But, bless my soul, that is no kind of way to treat a sculptor. Now, a little story as to how you deal with a sculptor would be very apropos. Then, in article No. 3, he might bring in a little detail showing how comparatively useless sculptors are without architects to collaborate in connection with the base, and the absurd mistakes sculptors sometimes make in the scale of their statues. Architects can be of use to sculptors, but in such cases the architect must understand that he is only second fiddle. When the sculptor acts as decorator of a building, then he in turn is second fiddle and the architect can get his own back.

Now, another little story could be something about the management of competitions on fair and square lines. Sculptors' competitions are sometimes embarked upon in the same way as architectural competitions. We heard a good deal some years ago about the plans for the Ottawa office buildings, but those were well advised who had nothing to do with the competition, because there was far too much real estate in Ottawa, owned by parties on both sides of politics, for a central building which would economize the country's time and money and reduce the janitor service, ever to be possible. We want to guard the sculptors against schemes of that kind for local advertising, which was all that the Ottawa scheme amounted to.

Another little story might be sent out on mural paintings. The present generation has produced a great deal more painting than sculpture, and we have for one able sculptor a dozen able painters, and we have lots of big blank walls, and mural decoration, either in connection with old or in connection with new buildings, would, I think, be a very legitimate field in connection with war memorial work. We could say something on that subject.

Then there is the bronze tablet. I don't think you have to look very far away: you have only to open the paper and you will find people who make bronze tablets and marble stuff by whom "designs will be cheerfully submitted." Cheerfully, CHEERFULLY! There have been some extraordinarily good bronze tablets put up in Canada since the beginning of the war, designed by architects, cast by bronze-founders with a clean finish on them, and there has been a lot of the rottenest commercial work you can imagine. That is something the public might be warned about and told that good things can be got, and there is no reason why some of the good things should not be photographed and illustrated in the weeklies.

Then comes the stained glass. The general public does not seem to know how stained glass is done. They don't know that you must have a full-sized cartoon and that it costs quite a large percentage of the total. They don't know whether the architect makes the cartoon or the stained glass man, or whether they collaborate on it. Or, if you do employ an architect in connection with stained glass, that you owe him about fifteen per cent. of the cost even if he doesn't make the cartoon. These things are perfect shocks to the public, especially the last item. Now, there are great opportunities for glass, of course, in this connection, and there is a terrible lot of bad glass about, and more in sight.

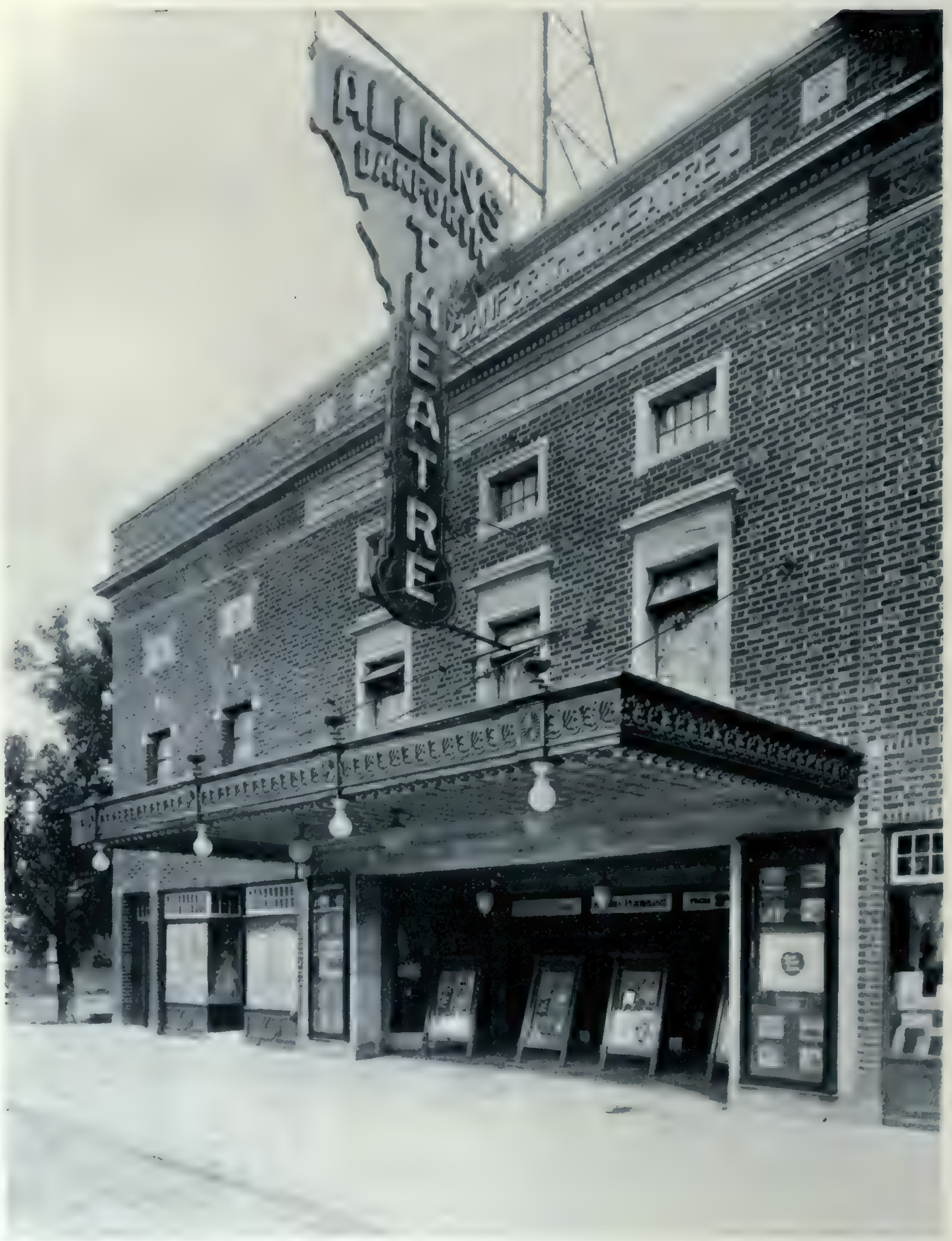
Then there is the purely aesthetic question of the difference of handling necessary in sculpture with different materials. The absolute difference required for the treatment of a statue in such diverse materials as black bronze, pale grey granite or white marble. There is the color, material, technique, and one hundred and one things that make for a difference. I am sure the public would be interested to know that such a difference existed, and I think it could be told in forty lines.

Then there are a lot of ancient war memorials that would furnish material for another forty lines.

And last, after people have got into the habit of seeing these little paragraphs in a fixed place in the paper, let us spring the fact that there are a lot of us architects, artists, sculptors and painters. I am sure a little carefully organized propaganda of that kind would do a great deal of good. I cannot see that it would cost very much, and I fail to see that it would do any harm. I make that as my contribution to the discussion, that a little propaganda along these lines, issued in the name of the President of the R.A.I.C. impersonally, with his address, so that public bodies and people interested might possibly inquire, would be beneficial all round. If it is found that a great deal of inquiry is being made and people want to run competitions here and there, and ask for advice as between two different artists they have in mind, or anything of that kind, I think the President of the R.A.I.C. is in a position to point to the presidents of the provincial associations. The presidents of the associations have the natural powers of their office to ask for advice from any of their members if they want it. We must really help the painters and sculptors. They are going to have a more direct say in these matters than we are. It is true we can put the big emotions in stone, but, then, nobody but architects will ever appreciate our efforts.

In conclusion, I must say a word on decorative subject matter. We have been struggling

(Concluded on page 349.)



ALLEN'S DANFORTH THEATRE, TORONTO.

HYNES, FELDMAN & WATSON, ARCHITECTS.

Australian Federal Housing Plan

The Federal Housing Commissioner of the Commonwealth of Australia states that operations for building houses for returned soldiers and dependents of deceased soldiers will be commenced very soon and will be pushed as rapidly as possible. The shortage of dwellings is serious, and there is an unfortunate scarcity of building materials.

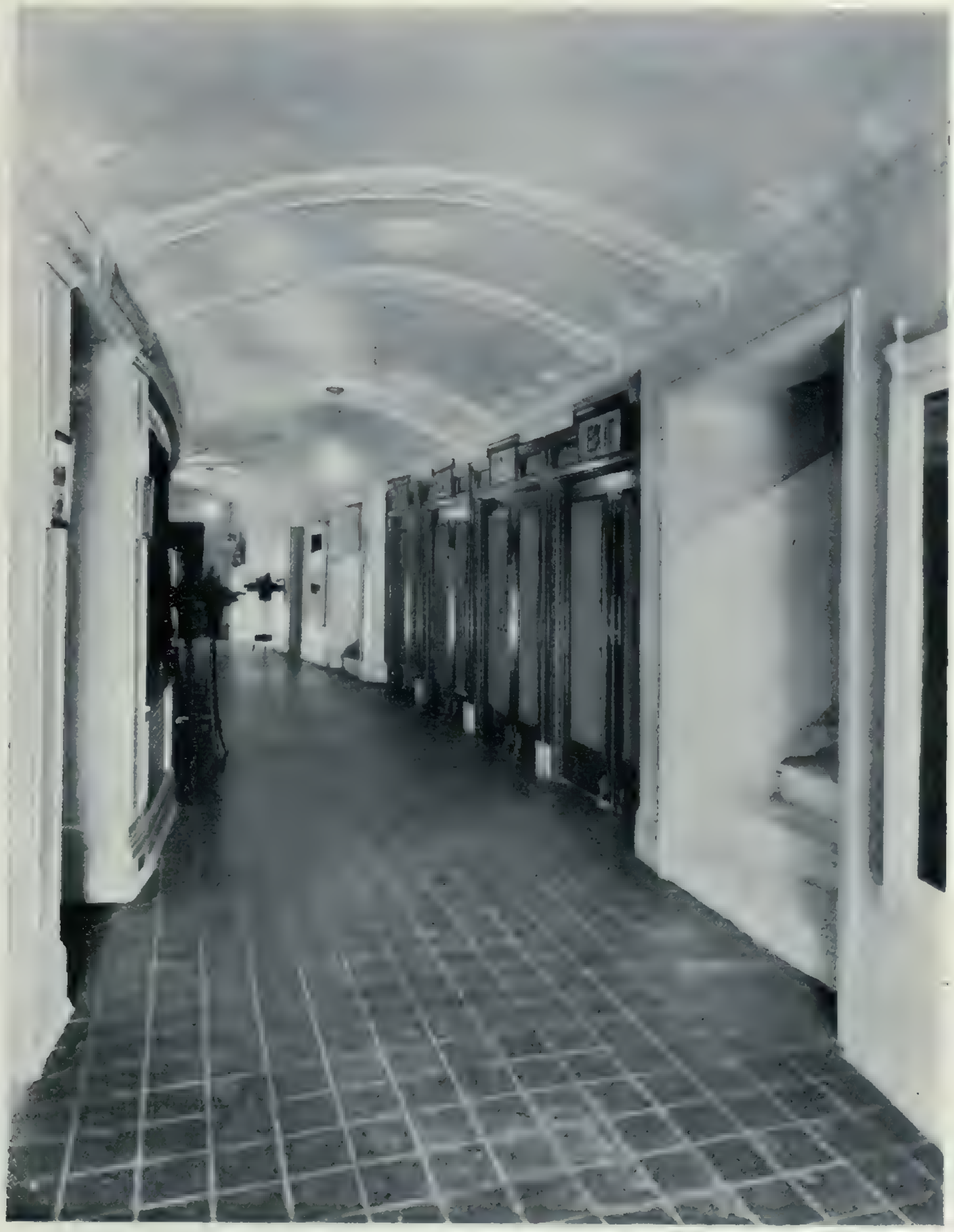
Before the war, in the City of Melbourne, an average of 75 houses were begun every week. It is estimated that the yearly construction for the Commonwealth must be at least 25,000 houses. To build that number of four-roomed cottages would require 875,000,000 bricks, which is more than the annual pre-war production. Hence the manufacture of bricks will have to be greatly increased. It is also estimated that a minimum of 200,000,000 feet of lumber will be required annually to relieve the present congestion.

Soldiers are to be encouraged to build new houses rather than to purchase places already built. The deeds will be retained by the Government until 25 per cent. of the price has been paid off, when they may be handed to the buyer. The Commissioner hopes to be able to build at 15 per cent. below the market price asked by private contractors.—"Conservation."

Allen's Danforth Theatre, Toronto

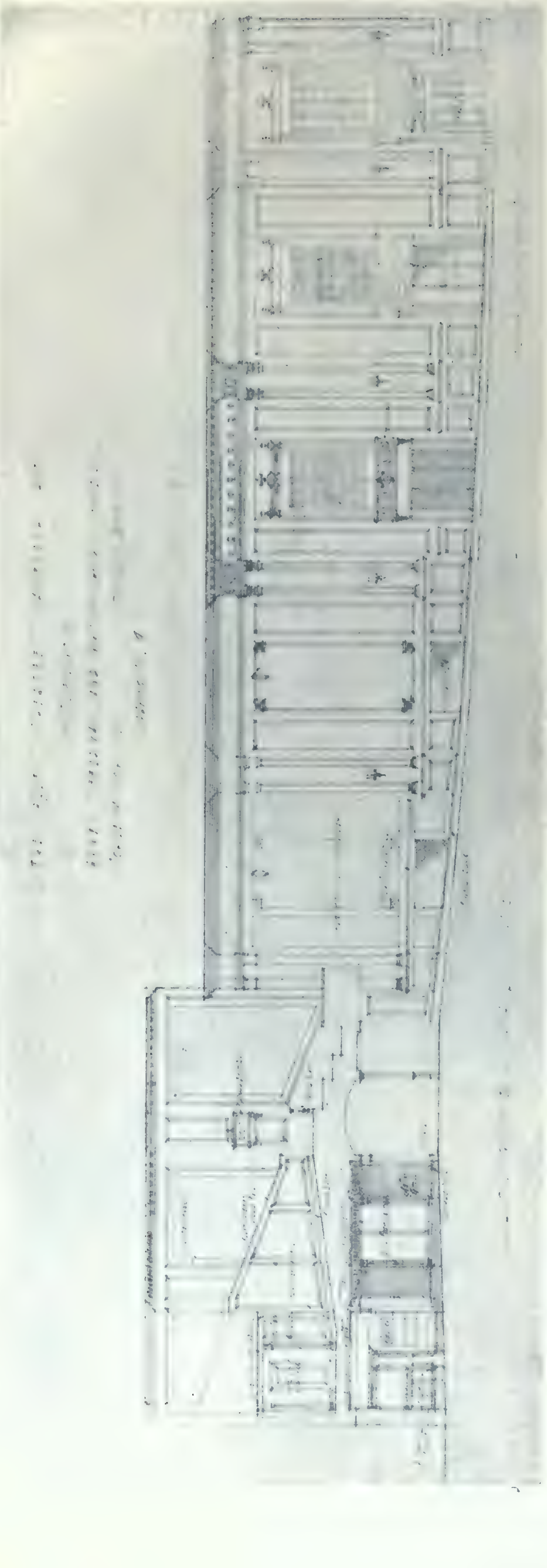
WIDE awake movie owners have not only come to realize that a well-designed building is a good investment and a means of attracting and stabilizing business, but movie patrons themselves are becoming more discriminating and are seeking out those places which offer the most in the way of artistic and comfortable surroundings for the money they spend. As a result an architectural impetus has been given to movie theatre design and a new standard is to be observed which is strikingly in contrast to the time but recently remote when remodelled structures and a plethora of heavy ornament were its outstanding characteristics.

The new Allen Danforth Theatre quite indicates the tendency in this direction, and is the latest of a chain of neighborhood movie houses now controlled by the Allens in various parts of Toronto. Three of these new theatres have already been completed and are now in operation, while four others planned along similar lines will shortly be opened to the public, making with other holdings of the Allens a circuit of ten local playhouses under the one management.



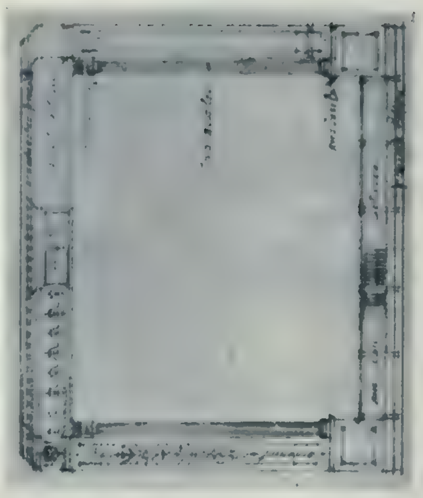
FOYER.

In the Danforth house the chief interest lies in the thoughtful and well studied general scheme, which demonstrates in a noteworthy way the value of competent architectural service in designing buildings of this kind. The exterior is of tapestry brick and cut stone, and simple in character; and the entrance is under a wrought iron canopy into the lobby, having panelled walls and a red quarry tile floor, and through a connecting foyer characterized by



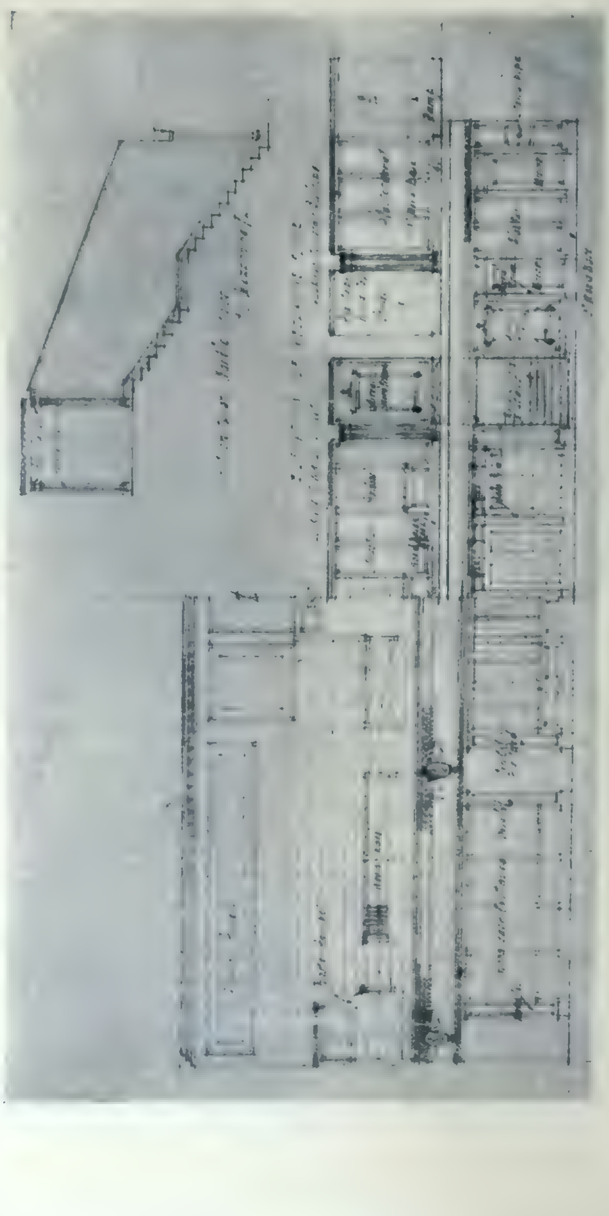
LONGITUDINAL SECTION.

ALLEN'S DANFORTH THEATRE, TORONTO.



ELEVATION OF PROSCENIUM ARCH

HYNES, FELDMAN & WATSON,
ARCHITECTS.



LOOKING TOWARD BALCONY TRANSVERSE SECTION. THROUGH MEZZANINE AND FOYER.

dignified lines and finished with white enamel trim, marble and chaste plaster detail.

In the decorative treatment of the interior throughout, all elements which might tend to distract have been carefully eliminated, and the result is a harmonious and inviting effect.

Evidence of this is particularly to be seen in the auditorium, which is in modified Adams design, the color scheme consisting of gray, blue and old rose tones, and the plaster ornaments being richly detailed and very effectively done. The ceiling is oval in shape, conforming to the contour of the walls and having drop lights at the centre and the four corners. The wall panels are of tapestry silk, while further adding to the effect are French windows set high on the sides and draped with gold trimmed old rose velour, which is also used for the curtains of the proscenium and the boxes.

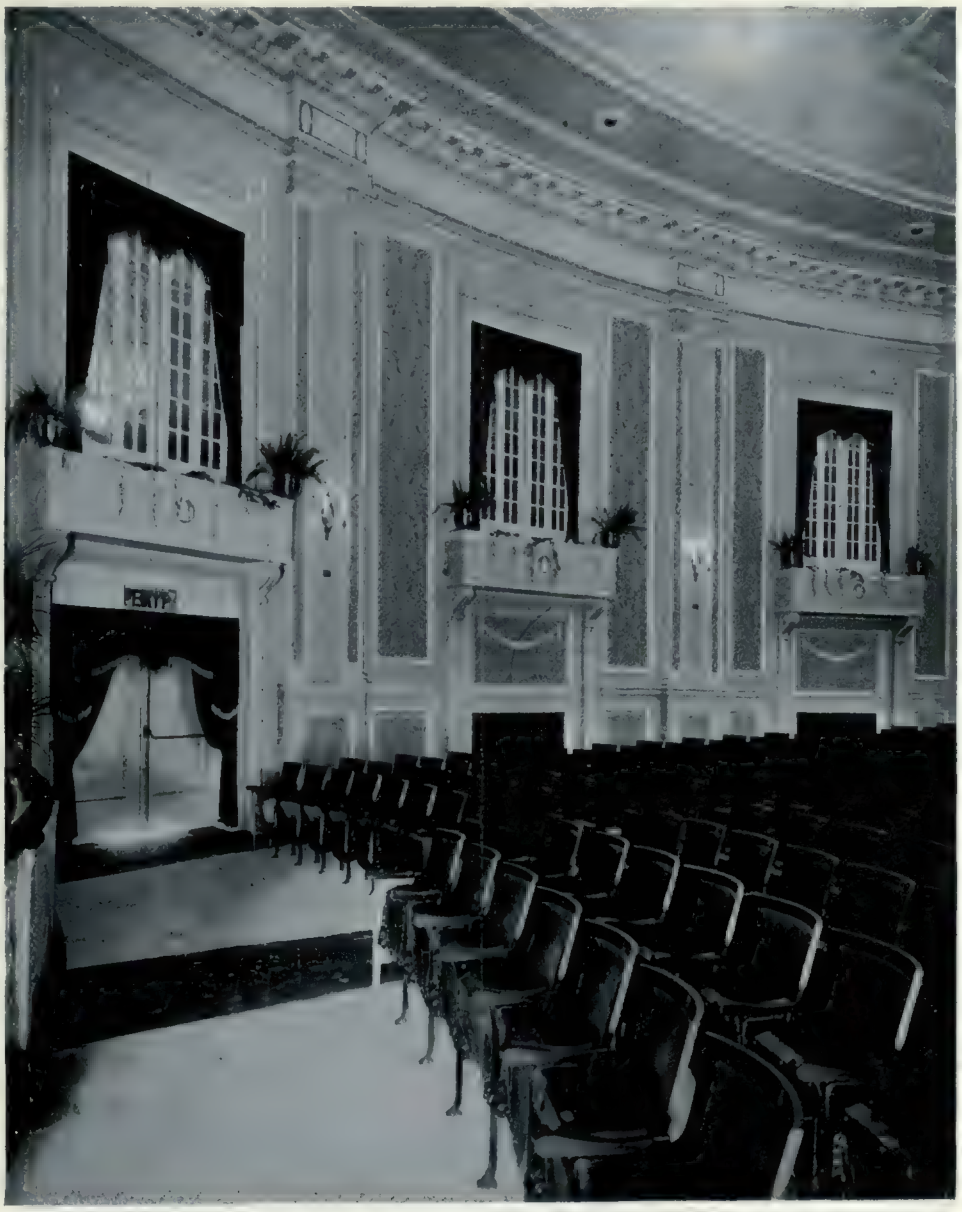
Altogether the auditorium seats about 1,600, and all but 400 of the seats are on the lower floor, the interior being designed entirely free from posts, and with sufficient floor elevation to insure perfect screen vision from any part of the house.

Other features of the plan are the rest rooms and smoking room adjoining the foyer, furnished with wicker furniture and attractively appointed. The trim of the "Rendezvous" and of the stairs leading to the mezzanine is of Venetian marble.

The building is equipped with an efficient heating and ventilating system which regulates the temperature in the auditorium and provides for a constant circulation of fresh air; and the basic materials used are brick concrete and hollow tiles, making the structure fire-proof in character.

An Ideal for Enthusiasm

Discussing editorially the subject of "An Ideal for Enthusiasm," the BUILDER, London, in a recent issue states in part that the wide recognition of the limitations of each race and age in building art that has followed in the wake of intelligent archæology has had its effect upon architects. It is now an offence against the light to close the eyes that have become opened to the beauty of all good building art merely at the bidding of a doctrinaire specialist or of a crank in taste. Blessed with freedom. we view the so-called styles as vehicles of a universal architecture which reflects the intellectual ideals and scientific accomplishment of the builders, enriched and limited by their historical circumstances. The general and absolute gain of this widened outlook cannot be conceived or regretted by the most ardent mediæval or classical student, and it brings to architects especially, and to their profession, an important share in the inheritance of this generation.



ALLEN'S DANFORTH THEATRE, TORONTO.
HYNES, FELDMAN & WATSON, ARCHITECTS.

MEZZANINE, ALLEN'S DANFORTH THEATRE, TORONTO.

"In architecture, if enthusiasm were of the imitative kind it would be absurd. The delight, however, is genuine of discerning that the intellectual conflict in a problem of plan or construction in the past recurs to-day, and it will mount into enthusiasm when the artistic motive is similarly revealed by analysis in a work of acknowledged or newly-discovered merit. This is equally true of all works of art in measure, though in architecture the variety of aims and factors increase the interest of research. The modern architect is also the contriver, constructor and dignifier of buildings, and his community in aim with his predecessor involves a fellowship of spirit and often of method, and this is ground upon which a wide enthusiasm may develop. The architects of the past—it is a past as long as human civilization—become sharers in our life and practice. The solutions of their problems and of ours move upon lines governed by the universal laws of thought. Artistic perception is constant as well as progressive. It is incessantly adding to its material. Every building has its specialty, and consequently its new combination of contrivance, construction and artistic treatment; though constant in the facts controlled by horizontal and vertical reaction, the art of design becomes progressive as new possibilities in arched or concrete building become available. The realization of the bygone architect's ideal and his method of working it out grows with the revelation of the factors with which he dealt,and the increase of the experience of beauty inarchitecture is understood with a new appreciation. Intelligent archæology is as stimulating to enthusiasm as dry-as-dust antiquarianism; the new generation may discover its warmth to be more healthy than the heat of the "battle of the styles." The opportunity not infrequently occurs of building for similar requirements to those of antiquity. Modern churches and tombs often afford examples, dwellings and buildings for living action seldom. But superficial form or technique will now cease to be as satisfying as formerly. Similarity of spirit and action will be sought for and result

GENERAL VIEW, ALLEN'S DANFORTH THEATRE, TORONTO.

in a higher aatainment of every true architectural quality.

"The question remains whether enthusiasm for the analysis of the motive and process of design in ancient architecture is a possible force in the usual tide of architectural practice, for in this alone is such a consideration of any practical value. The answer may be that a patient and sympathetic study of the conditions will generate in a modern builder zeal to emulate, not the forms, but the living spirit or genius of his ancient brother, and will lead towards a manifest triumph over circumstances. Architectural genius is the spirit resident in its successes.

"The world of historic building will cease to be a wearisome panorama, in which the only interest is to identify a similarity of form to some traditional or accepted type. It will become an encyclopædia, expressing everywhere the same intellectual conflict between forces and ideals that besets the path of the architect of the twentieth century. The requirements of the problem may be as different as the materials, but as both the forces of nature and the laws of thought, by which the art of design works, are constant, universal genius of architecture will ever assert itself."

AUDITORIUM, ALLEN'S DANFORTH THEATRE, TORONTO.

War Memorials

(Continued from page 343.)

along ever since the Middle Ages, losing generation by generation the subject matter that makes possible the adornment of buildings. We still have a small heritage from what the Greeks left us, and a slightly larger heritage from the Middle Ages in the way of symbols and tutelary deities and saints, and all the rest of it. Pegasus is the very embodiment of the aeroplane, and Taras riding the dolphin aptly symbolizes the submarine with her crew, while Britannia and her sea horses is as apt to-day as ever to typify the spirit of the navy. We have as part of our heritage of medieval heraldry, with many modern accretions, the arms of cities and countries and provinces and dominions, and we have the newer heraldry—which needs a little straightening out, that it will get in time—of regimental insignia: Winged Victory means something more to us now than ever it did before, and so does the slow-tarrying Victory without wings. I really think we are approaching a rather splendid epoch again in the matter of ornament that means something.

For instance, if people want a war memorial in the way of an addition to a building, a porch, screen, window, door, entrance to a park, bandstand, or anything, how much better they should be as war memorials than merely as doors or windows. Think what a much better bandstand you could do now as a war memorial than you could have done before the war, with nothing but a Union Jack railing and the Corinthian Order as the decorative materials to play with!

Now, what I really wanted to talk about was the suggestion that a little propaganda be administered for the information of the general public as to just where and how the different artists' function, and we who practise the mother art should look after those who practise the daughter arts; and I know that if we do it there will result a great deal of excellence that the country would never otherwise come by.

The War as a Factor in Architectural Education

An Address by Brigadier-General Charles H. Mitchell, Dean of the School of Practical Science, Toronto University, before the Ontario Association of Architects.

IT has always been my impression that an architect had a great deal more at stake in the war than other people, excepting perhaps engineers, of which profession I am a member. Now after five years of war I cannot help but feel, as I am sure you all do, particularly those of you who were over to the other side, what a factor that experience has been in our education; so much more than we could have realized when we started out. I very well remember how that impressed many of my friends who were architects, particularly some from Toronto—and just now I do want to deplore the loss of one of the finest men who ever came from this place, Lt.-Col. Sam Beckett, one of my great personal friends, whose presence we very much miss here to-day. We often talked about what it was going to mean to us to fight in that historical theatre of war, filled as it is with priceless architectural monuments.

The educative effect, looking at it from that point of view, was more than we could have anticipated if we had attempted to think it out beforehand. When we got over to France and saw to what extent these ideas were being realized we could not help but think what a tremendous education it was to us to have that opportunity; to see those great towns, so rich in historic memories and so rich in architectural beauty, to help us in the relaxation, if you like, that is so necessary at times, when we could enjoy them in our life over there, whether we were regimental or staff officers. We remember the different types of architecture and the types of town planning which we saw, and I for my part could not help but remember and compare Canada my home, Toronto my home, and think about the problems we are trying to work out here, and try unconsciously to apply what I had seen in France to the problems of Canada. And I could not help but feel that if the good Lord was willing that we should get home safely, how we would try to make this country better, more beautiful and more convenient to live in, which is the motto I am sure of every architect and every town planner in the Dominion.

I suppose there was no more beautiful architectural inspiration in the whole theatre of the war than the City of Ypres. I remember Ypres as early as March, 1915. At that time it had been through the first battle of Ypres and had only been partially destroyed, only slightly injured, as compared with what happened afterwards. The Cloth Hall had been burned and the roof was off the great Cathedral of St. Martins, and a few of the houses of the town were destroyed. And then we entered upon the great battle of April 15th and realized what a tremendous bombardment could do in destroying a town. Ypres was a town of not more than 13,000 or 14,000 people, but it was rich in history and rich in architecture; and as time went on I watched it with very great interest, and many of us discussed it from an architectural point of view, realizing that so beautiful a place was going to be absolutely destroyed. And when we looked at the Cloth Hall, at St. Martins, and at the other churches, St. Peter's and St. John's, and when we looked at the beautiful architectural features of the Grande Place with its quaint buildings surrounding it, and again at the historic gateways, the Menin Gate, the Lille Gate, we could not help but feel that the inspirations of four hundred years were going to be lost if we could not push the Germans back and free the town. That time never came.

A subject about which there has been much speculation is the number of tons of shell that were thrown into that town to destroy it and bring it to the state in which it now is. I did not see it during the last year of the war, but as I remember it two years ago, it was practically flat and in a ruined condition. But it is a great relief to know that even what remains—particularly of the Cloth Hall and St. Martins—the civic centre—they are going to try to retain as a feature for the new town that will be built up around it. Plans are now well advanced for that. I heard some talk of it when I was in England, and I saw by the press recently that they are actually going to carry that programme out. There was some talk at one time of building another Ypres on the high ground to the north, at the Menin Road, but that plan evidently fell by the wayside, due, I am afraid, to commercial interests, which they have over there as we have them here.

While I am speaking of Ypres, I cannot help speaking of some of the wonderful chateaux that surround it, names that I know are familiar to you—Potizje Chateau, Belgian Chateau, Swan Chateau, Lankhof Chateau, and the "White Chateau" on the hillside, which was in possession of the Germans and which I well remember formed such an interesting picture in connection with our fighting in that locality, because it was right opposite Hill 60 and near St. Eloi. I tried very hard to get the plans of the White Chateau, which had been built in the eighties; it was not an old building; it had a mansard roof, and I was able to get the plans from the architects who happened to be in France, in order to show the arrangement of the cellars and the basement so that we might know something about it in connection with our bombardment. But that is just of passing interest to architects of course.

Now to go further south to Amiens. I do not want to take time going over these things, because in many respects they are very obvious, but one cannot, in speaking of the war, forget Amiens with its wonderful cathedral. I well remember the first time I saw it, which was just before the battle of the Somme; that is before that phase of the battle in which the Canadians participated; I felt that it was the greatest thing I had ever seen. Through the mercy of Providence, and the will to defend of the British and the French in front of that wonderful old town, it is a great thing that the cathedral has been preserved to us the way it has. I think, as architects, we all feel that it is one of the things which the army saved.

When one thinks of that area of the Somme in which such bitter fighting went on three years ago this month—it is just three years ago that our Canadian corps was attacking Regina Trench with such great loss, and the mind visibly pictures the rolling hills, the waving fields on the hillsides, they are low hills and not sharp but rounded, a sort of undulating country, in Picardy—one can yet see the little groups of villages which were always marked by clumps of trees, the only topographical features of the landscape. That is why it was that there was such great difficulty in the fighting on the Somme to distinguish the trenches and know where our troops were as they advanced. That is why it was that we had so much difficulty and so many losses due to artillery fire because there was always an uncertainty as to where the front line lay, and it was difficult for the observer or photographer in the aeroplane to get the actual location of our front line. There were no fences, no fields, very few roads, and nothing except a little village with the trees about it.

That brings me now to the thing which I should have spoken of perhaps when I was talking of Ypres. Every region, as you know—and many of you have been across to Europe—has its own distinctive architecture. The distinctive architecture of Flanders and of Picardy, and of the Flemish region as apart from French Flanders, was so marked that one could see it as he passed through the country in a motor car. I suppose that while there was a general similarity through the whole country, yet one, if he studied it with care—I tried it once but did not get very far—could pick out various areas in which the dominating ideas or taste of the architect of any particular period was marked by the buildings which he or his contemporaries built. And that brings me to an interesting feature in which that fact was used in connection with the war. As you know, I was engaged in the Intelligence Service throughout the whole period, and particularly in the Second Army with Sir Herbert Plumer during 1916 and 1917. We had great difficulty in organizing properly our reconnaissance and observation work from the various observation posts and from the hills around the country lying between Lille, Armentieres, and up to Roulers, for instance, which was well inside the German lines. We had occasion to try to pick out the various landmarks which, of course, in that flat country largely consist of towers, spires or some great architectural feature in the various towns and villages; and when we realized that there was really a great similarity in the landmarks, we found that it was advisable to get out diagrams to show these various towers as they might appear to us through a telescope at ten, fifteen or even twenty miles away and to make them useful for the whole army. I got out a little booklet or chart to show how these were, and thereby each observer could orient himself on the landscape on the horizon by these various towers or spires, the location of which was shown. To illustrate my point, I will take the liberty of passing this around so that you can see the similarity of the original work and in another the dissimilarity, I presume owing to the different periods at which these buildings were built, varying from 100 to 500 years. That can be applied to our own country, and you in whose keeping the architectural features of this country will be, know better than I can express it what it means to be too wedded to a type, too much concerned with certain features which are only transitional and which are not basic for a century's use.

Now, I have spoken of France, and let me say a few words about Italy. Italy would be sufficient to talk about all the afternoon. When I learned that I was going to Italy, in November, 1917, I suppose, apart from the excitement of the moment, one of the first things that struck me was: What a wonderful place in which to fight a war. Think of going to Italy, and Northern Italy particularly, so rich in wonderful architectural features, those great towns which have made our history in so many respects in art of every kind. And in the great rush out there after the battle of Capporetto and the disaster to the Italian army, I can never forget my first impression in those cool and bright November days in passing through those historical towns which many of you have seen, and in looking at the beautiful historical churches, palaces, monuments, fountains, the great squares and arcaded streets. Mantua, which always makes us think of Shakespeare; Padua, so rich in all its wonderful buildings, with San Antonio, the great church, in the centre; Verona, which is a city of courts and private courtyards and wonderful doorways and gateways; Vicenza, so rich in all its private buildings and extraordinarily artistic vistas of private houses, the place where Palladio, the great architect whom we all studied, for years lived and carried on his architectural business and whose marks are all over the country thereabouts in the wonderful villas which he built.

In passing, I cannot help but speak of living, a year ago this last summer, in a Palladio villa. It was on a hillside about 15 miles north of Vicenza at the foot of the Alps. It was built about 1480, a wonderful old place, with wonderful entrance gates, fountains and gardens, and a wonderful terrace where we sat after dinner, overlooking the valley of the Astico. I suppose it is quite all right to say that when I was living in it with Lord Cavan the staff included the Prince of Wales. We were all living in the same house, and it was a delight to have the unique experience of working in those conditions with the splendid Imperial officers. After dinner we used to sit out on the terrace for about half an hour before our evening conference, and have our coffee and cigarettes. Away up on the right to the west was the valley of the Astico with the setting sun through it; and from a notch in the mountains at the end of which, fifteen miles away, we knew the Austrian sentries and observers were sitting looking towards us—if they had had strong enough glasses, and there was not usually a little haze, they might have seen us. We had the roadway screened so that they could not see the approach of motor cars. In front of us the Astico with its wonderfully rich valley of vineyards, and then to the left, away off in the haze the hills around Vicenza. I will never forget those evenings, and I suppose if I had been an artist or an architect, I would have wanted to be making sketches all the time and would probably have lost my job if I had tried, because I had too many other things to do.

I have digressed on that because I wanted to speak about Palladio. Now we come to Venice. Venice was, I suppose, the place of all others in Italy where everyone felt we had to fight to the last ditch, to the last canal, to save it. And I suppose the war in Italy centred around Venice more than any other place. They nearly got it in the great rush of November, 1917, and they nearly got it again in June, 1918, when the Austrian offensive took place. But, thank God, the Italians and the Allies managed to save Venice and the Austrians never got there. You have all heard how the Austrians bombed Venice, and they did bomb it hard. They never got any shells into it, but they dropped very many bombs, which fortunately on account of the large water area did comparatively little damage. I was surprised when I first went into Venice to see what little damage had been done. Of course, with a town of 200,000 people, the enemy could put a lot of bombs into it without doing any very serious damage, comparatively speaking; that is without destroying many public buildings. They got some churches and they got the railway station and some private houses, but very few valuable essential buildings were destroyed.

Of course, the Italians took great precautions. They took away all the things which might be destroyed which were of priceless value. The bronze horses of St. Mark's, for instance, were taken away to Rome; I saw them there about a year ago this winter. They removed all the great pictures from the walls and ceilings of the Doge's Palace and the Library, and they took away most of the movable paintings with whatever the paintings were on, whether canvas or wood, and got them out of the place entirely, mostly down near Florence. But there still remained a lot of priceless statuary and architectural details which had to be protected. I do not need to go into details of how they did it because I suppose you have seen many photographs of the protective measures which were taken, but it was one of the most interesting things to me in the war to go to Venice and study the way in which those ingenious Italians had protected places like St. Mark's, the Doge's Palace, the Library and other prominent buildings, by covering the fronts with sandbag structures, supporting the arches, particularly of the Doge's Palace, by under-pinning, adding extra posts in the crown of the arches and filling up the spaces with struts of various kinds. Inside St. Mark's the same precautions were taken about the wonderful statuary, the Donatellos, and so on; and they also protected the glass where they could not take it out by mats of various kinds; while the glass that could be taken out was removed and put in a safe place.

I cannot pass without speaking of the extraordinary effect of the lighting of the lanterns of the domes of St. Mark's after they had taken the glass out. The first day I saw this effect was on a Sunday morning in May, with a bright sun, when all these windows around the tops of the domes had been removed and replaced by canvas; the canvas was white and had been oiled, and the effect was a rich warm yellow color. With the sunlight shining through on to the golden mosaic of the domes and walls of St. Mark's, it was a thing I will never forget, and when I go back to Venice, God willing, some day, and see the glass in again, I will remember by contrast what an extraordinary effect that lighting was. It was still more accentuated after the armistice. It was a week before the armistice in France, and on the 9th of November, a Sunday, there was a thanksgiving service held in St. Mark's, attended by about seven or eight thousand people, including soldiers of all nations, Italian, British and French and some Americans. On that occasion they took down some of the protective work on the interior, as well as from the windows on the outside, and for the first time in many months the church was attended with the bright sunlight shining in through all the windows. The scene, with its brilliant coloring and music, is something which I shall always remember as one of the great jubilee thanksgiving services at the end of the war. After the services were over, with several of my officers, we walked on to the gallery where the bronze horses used to be, and saw the people in the Piazza in front of St. Mark's, and although sombre in color, with so many of the people in black, there was enough color in it to make a wonderful picture in the bright November sun.

I speak of these things because many of us will be in Venice some day, and I want to try in the few moments at my disposal to indicate a picture so that when you see it again you will notice and mark the contrast.

I am afraid I have talked more about the war than I intended, but I do want to say that the war to us—and I am proud to take the liberty of classing myself with architects, because I am associated with you in various ways—has a very rich advantage in giving us a viewpoint and a perspective which is going to affect the whole of this country in architectural and artistic ways.

I wish we had more time to follow some of the other questions which would take us through fields such as town-planning and reconstruction, but this is not the occasion.

And now with regard to the University. As Dean of the Faculty of Applied Science and Engineering—the post which I have the honor to now hold—I am very proud indeed that it includes a Department of Architecture. Last February, when I was in England, after my return from Italy, and while engaged at the War Office, I received a letter from Sir Robert Falconer (and it was not a surprise to me, because I had been thinking about these various matters), in which he said there was a strong feeling here amongst the architects of Ontario and of Canada that we ought very materially to strengthen the Department of Architecture at the University of Toronto. Of course, during a war such as we have had, such a long period and such tremendous influences at work, where almost all our staff and students went to the war—it was only to be expected that a great dislocation would occur in a department such as that of architecture. Those of you who have had to bear the brunt of the situation at home, who stayed here and had to keep things going at this end, realize that as well as I do, looking at it from the University side. Now we come to a new turn in the road.

When I came home, with the approval of Sir Robert Falconer, the first thing to which I wanted to turn my attention, and which I did, was to take steps to strengthen the Department of Architecture in various ways. One of the things which we arranged for, and which is now in process of fulfilment, I hope, is the addition of an associate professor who comes from London, and who has been for seven or eight years a teacher at the Architectural School in Bedford Square. He will take on architectural design during the coming year. That is a first step which will affect us very materially. Other plans contemplate a further widening of the scope and arrangements where the members of that department can be given more time in which to concentrate on that particular phase of the work, as well as the addition of other instructors.

Now I come to a point on which I do want to speak to you as architects of this city and of Canada, and on which we want your help and co-operation.

I may say that while I did not have the advantage of hearing the discussion of the convention on "Architectural Education," I am sure that expression must have been given to the fact that in university education for architecture we are too apt to be academic, and too apt to forget the side which in after-life every young architectural student has to develop after he leaves the University.

Before returning to Canada, I went through all the great universities in Great Britain—Oxford, Cambridge, Manchester, Leeds, Birmingham, Glasgow and Edinburgh. Most of them had architectural courses of some kind, and I was somewhat shocked when I realized, as I asked the question in place after place, that their architectural courses were a very uncertain thing, that they were ill-attended, and apparently ill-nourished. When I got back to London, I went to the man who I thought was the biggest man I could go to, Sir Aston Webb, who, I suppose, is the doyen of architecture in the Empire, and who is now, as you know, the President of the Royal Academy. I told him of our situation in Toronto, and asked his advice. I told him what we wanted to do, to get a special man to come here who would bring in some new ideas from the other side and help us with our designing. I told him of our difficulties as I saw them from that distance, and of the necessity of allowing for the five years of the war which had kept me out of touch with conditions here, and as to what might at present be regarded as the best course in teaching architecture. I explained that the methods followed here were, in my opinion, not the methods which were succeeding in Great Britain.

Sir Aston then told me of the School of Architecture in Bedford Square, and I went with him there and met the principal and a number of the instructors. I found that even under war conditions, 200 students were taking architectural work. That was more than I could count up in all of the universities which I had visited; so that evidently the methods which were being used at the Architectural School in London were the proper methods, according to our present lights. While the methods were academic in a way, they were about two-thirds something else, and that something else was a very close relationship, close co-operation and close co-ordination, with the work which is done by the practicing architects in the city of London. I asked myself at the time as to how we could approximate this course and get our students at the University closely connected with the working offices, studios and draughting rooms in order to establish contact between class studies and practical work in architectural training. This was the problem.

Evidently in London that is considered the best way to do it. As to whether it is the best method or not, I will leave to you. I do not propose to make any suggestion whatever, but I would ask that if you can appoint some committee or sub-committee with which we might confer in order to ascertain what way there might be co-operation with our teaching staff, some such conference should be held.

Of course, I think that there must be a university education in order to produce a good architect. Perhaps I am going counter to the views of some of you when I say that, but I think that to-day it is as essential in that profession as it is in any other.

May I digress a moment on that point? We have been in the habit in the last few years of educating engineers and applied scientific professional men as technologists. We have over-educated them in some respects by specializing too early as technologists, and we have forgotten the great essential in the education of young men. I am sure you will all agree with me that a man who graduates from a university must first be a cultured and educated man; and in the second place a man who will take his place in the citizenship of Canada after he leaves the university, as a leader in thought and action in the community in which he resides. After that let him be a technologist, whether he is an architect, engineer or anything else. I think you will agree with me that I have put the first two essentials in their proper order.

There is undoubtedly some way whereby we can produce at the University the best type of architect and combine all these qualities in one man who, after he has graduated, will be of value to himself, of value to the people with whom he works, and of value to the country at large. I leave that thought with you, gentlemen, and would ask particularly that you assist us in finding some such means. We will do anything to meet any suggestion which you have to make, and I hope some such scheme can be worked out. I am delighted to have had this opportunity to speak to you, and I hope we will meet again sometime before long.

The University in Relation to Architectural Education

Address by Sir Robert Falconer, President of the University of Toronto, before the Ontario Association of Architects.

Following General Mitchell's remarks, Sir Robert Falconer, President of Toronto University, addressed the gathering, stating that it was not his intention to deal with the technical side of architecture, but to make one or two general remarks about the great inrush of students this year both at Toronto University and elsewhere which was entirely without precedent.

"This," he observed, "is not a matter merely of making up arrears. There is an element in that, but there is something more. As we read the facts this week, it justifies what we have been expecting, that as a result of the war there will be a great turning towards education, and the future will lie with the educated men. The ordinary technician, quick at a little thing, and perhaps doing it very well, but knowing very little more, is going to find competition extremely difficult in the future, because he is going to find the world more full of educated men than it has ever been before.

"What does it mean? It means this, that in dealing with our educational affairs we have to consider what the word 'practical' really means.

You hear a great deal about 'practical education.' Now, what does 'practical' mean? Some people think that practical means a quick technique, that you can get quickly and use as soon as you go out. Of course, there is a certain practicality about a readiness of that kind that is easily got and is effective and efficient within certain narrow limits. But the real practical education is not the education that fits a man to get a living the year after he goes out, but it is the education that fits that man to compete in the great school of life so that year after year he will be able to maintain his position and get a growingly increasing position in the community. That is the real practical education. Now we have to meet that in every branch and in every profession. There is the quick lunch type of education, which ruins your digestion after a while. And there is the man who believes that life is not so full of rush but that you can sit down in the middle of the day and talk awhile and get a decent lunch and perhaps even rest a little while after it. There are the two types of men, and the one will live longer than the other. That is so in almost every branch of education.

"To-day the world is full of restlessness and rush. But why should the world be so full of rush? Why should there be all this haste? It is reasonable that there should be haste while war is on, when everything has to be speeded up to win an instant victory. That is all right. But has human life nothing more for us than year after year of fevered anxiety, that every moment of it should be seized and filled full not with thought but with mere exercise of the will, mere energy? Is that all that life is? Mere energy, mere drive, mere force? Then life is not worth living for most of us. We have had too much of that kind of thing already. What we want in life is something of the richness of it. Something that really brings us treasures from our spare moments—and we want more spare moments. That is the reason that we sympathize with the movement for shorter hours. There are varieties of reasons for shorter hours, but one great underlying and perhaps unconscious reason is the need of more time to live life rationally, to put something into life that is worth while. And, of course, it is incumbent upon us, now that the workman is getting more time, that we should enable him to use the extra hour in a reasonable human way and get some richness out of it. But what sort of example are we giving him if those of us who occupy ourselves in the professions and elsewhere fill up every moment with this rush and do not recognize that the largeness of a man's life consists very much in the way he uses the spare time he has. If we give them no example we cannot expect that the world will change Therefore we cannot, in view of the immense rush into education, lower our standards. They are going up instead of down. They have gone up. We have added another year in medicine, and it is now six years.

"I had a letter from a friend of mine, a rather anxious university president. He says some people are somewhat anxious that if these long hours are put on we will drive our students to the United States. There is not much sign of that when we have in the first year of medicine 450 students, of which not more than 200 are returned men. There are 250 entering on the six-year course. A far larger number than we have had before. Next year Applied Science will be put up, so that three or four more subjects will be put on. That is to say, he has to be well educated before he begins. He must have honor mathematics now. He will probably have to take honor physics and honor French. That is where we intend them to be well educated, at the schools, so that a good type of student will come in.

"Of course, the difficulty is expense, and that is a very serious matter. There is one of the questions for the future democracy to solve. How is talent to be discovered? How are we to know where it lies latent? And how is that latent talent, when it has not the opportunity, to get the opportunity so that it will become of service to the public? That is one of the large questions that lies before this democracy But because of the probability of latent talent not getting its chance, we cannot keep back the whole average. The average has to be brought up and then we have to find means to cultivate the special, those who really are fitted for an opportunity but cannot get it.

"That to-day is our point of view in the University, and I think you will find in the long run it is the practical view. We know why we have had so great a tussle in this war; it was because Germany had learned that lesson. There is the latent power in the Anglo-Saxon, but it had not been organized, but believe me, we are not going to be caught napping that way again. There is going to be a high level of intellectual development and intelligence in every branch in the country.

"Yesterday I was out in two of the cities of this Province—Stratford and London—and I got the same story there as everywhere. The schools are almost bursting with youth; not room enough in the village institutes. We know that the technical schools are being developed and their branches in the intermediate schools are going to come on. And you know the inspiration that Dr. Cody is putting into the whole movement in this Province. For the next ten years we will hardly know how to take care of our youth who are seeking an education.

"It is a magnificent period to live in. I stood in that hall of ours to see so large a body of students, and I never felt such a thrill of power and energy as there was in that body of men and women. It is a great time to live in. The future rests not with those who haste and hurry through, but with those who in quiet and confidence have their strength and who go on year after year working out the power that is in them and bringing that power to the development it should have.

"That is the whole principle that ought to underlie our education, and therefore our standards will go up instead of going down. The result will be that the democracy, as a whole, will find leaders. It is in the educated talent of our democracy that the leaders will be discovered. They are the only people who can lead. Taking the people found anywhere, wherever they are, in any grade of society, give them the opportunity, and then develop them. That is our safety, and I think our people have discovered it, and for that reason they look upon the future of education in the next ten years as being bright with promise.

"I really have nothing more to say, Mr. Chairman, because that is the gist of the whole thing, and I know that you as architects agree with me; that what you want, as General Mitchell has said, is the class of man who can think, who can take time, perhaps sometime, to go over to Italy and look at another world. The class of man who has a breadth of human understanding that makes him more than a mere technician. The architect is an educated gentleman who has a large function in rendering human life—as General Mitchell said—more human and more livable."

The Ontario Housing Act

Address delivered by Mr. James Govan, Architect of the Provincial Secretary Department of the Ontario Government, before the R.A.I.C. and O.A.A. Convention.

WHILE my connection with housing is not very old, I have specialized quite a bit in the problem of housing the unfortunate, the victims of the sins of omission and commission of past generations. So I look upon housing schemes not only from a professional but a social standpoint. I am connected with Ontario's first official venture into a field which, after all, is the greatest, just as it is the oldest architectural problem. You gentlemen who have to deal with the problem of providing five thousand dollar houses for three thousand dollars are better qualified to speak on the architectural side of this question than I am, because after all officially I have only been a critic, and it is very easy to be a critic. I consented to say something here to-day because I have been connected with the working out of the Ontario Housing Act, and I think if something is put before you it may produce a greater participation in the development of the housing movement on the part of the architectural profession in Ontario than has been the case in the past.

The attitude of the Government is that they do not feel as if the profession had taken the interest in this subject which it might have taken. I do not know whether Mr. Adams here agrees with that or not, but that is how I feel personally about it. At the same time I could not have carried on my Department if it had not been for the splendid backing and help which some of the members of the profession have given to the local Commissions scattered throughout the Province. This assistance has meant much to the local Commissions, and I think the members of the profession as a whole can do far more than they have been doing this year.

The experience I have had during the past year in the administration of this Act simply confirms an opinion that I held before, that in the solution of the economic problem of the small house most of the laymen in Ontario consider the services of an architect not only unnecessary but positively a hindrance. That may seem rather a broad statement, but it is the experience I have had in dealing with the local Commissions. We have had ninety-one Commissions going in the Province, and I have met most of those acting in this capacity, and I think that on the whole they are a splendid body of men; but they have just about as much use for the architectural profession as the gentleman had for the general public who said, "The public be damned." That is the sort of remark that the layman has to make of the architectural profession.

I think that the remedy for that state of affairs lies entirely in the hands of the architectural profession. As Mr. Adams has pointed out, we must begin to take an interest in this thing not from dollars and cents you may get out of it in a professional way, but from a social standpoint. It is no use to say that if we had a chance we could demonstrate what we could do. The fact is that the profession as a whole has ignored the question, and if the housing work generally has been left in the hands of incompetent men, those who think they are competent need not wonder if their ability is questioned unless they show by more than an academic interest that they are not dilettantes.

In the operation of the Ontario Housing Act so far, there are about ninety-one municipalities with Commissions appointed, and out of the twenty-three cities in the Province of Ontario, eighteen have come under the Act. The cities that have not are Toronto, Chatham, Peterborough, St. Thomas and Kingston. Of those five Chatham and Peterborough have got bylaws in course of preparation. More than two-thirds of the towns are in, and about sixteen municipalities are actually building. A point of interest to the profession is the fact that of the sixteen municipalities that are now building, over two-thirds of them have in their employment a local architect to guide them as recommended by the Government.

The first thing we have attempted to do in administering the Act has been to advise every Commission which came to us to get an architect. Sometimes we were able to induce them to get an architect, and sometimes not. It depends entirely on what the local Commission thinks of an architect. In some cases they have got architects, and in many cases they have got the best men that are available in the particular neighborhood.

When the Act was passed at the last session of the Legislature, the fact that was impressed on Mr. Ellis, the director of the Ontario scheme, and on myself as consulting architect for the scheme, was that something had to be done quickly.

Now, there are two ways in which this Act might have been developed. One would have been to carry out the same ideas as have been carried out in Great Britain, and also in the United States, and have got a big central organization that would have approved of all the schemes and that nearly all the schemes would have been large group development. Public opinion in Ontario at the present time, or at that time, was such that Mr. Ellis did not feel that very much progress could be made this year if we confined our energies entirely to group development. For that reason we have rather satisfied ourselves this year with making a beginning with the development of building on individual lots, and endeavoring wherever possible to influence the local Commissions to get busy as soon as possible on group development. I am glad to say that quite a number of cases —for instance the development at Ottawa, Hawkesbury, Iroquois Falls, Trenton and several others which I cannot remember just now—are being carried out as group development. There are, indeed, one or two splendid schemes which will have a fine leavening effect in the Province of Ontario. I think the best of all so far is the one with which Mr. Adams is connected, the scheme in Ottawa.

I thoroughly agree with Mr. Adams' contention that we cannot hope to build all the houses needed, and that therefore the few we do build should be built as models for the general community.

As soon as the Act was passed, and before we could say "Jack Robinson," the plans began to shower into the Department in such a way that we had to pass on the plans, create the machinery, and get the whole thing going at once. The result is that to-day in Ontario there are two hundred families living in houses built under the Act this year; thirteen hundred families that will be living in houses in two or three weeks. and before the year is closed there will be fifteen hundred.

That has involved an expenditure of about four million dollars. At the present time the amount of appropriations which have been already granted to the Commissions in Ontario is $10,620,000. Now, if I came to you and said that in the immediate future there was a job which represented the difference between that four million dollars which has practically been spent and the ten millions appropriated, or about six millions, I think you gentlemen would be much interested. Well, the job is there for you, only it is cut up in piecemeal fashion. If you leave the development of this work to speculative builders and half-baked draughtsmen and men of like calibre, of course we will not get the results that we desire to get. While we in the Department are doing everything we possibly can to put this scheme in the hands of the ablest architects in the Province, that kind of result is very difficult to get by force. You have to get it through the process of education, and the educational campaign can better be conducted by the architectural profession than it can be by the Government.

It is interesting in connection with the figures I have just given you to notice that in a recent number of the "Canadian Municipal Journal," the secretary of the British Federation of Trades Unions stated that Britain had yet to build its first house under the reconstruction scheme. Well, as I said before, we were asked for results, and we have got some results. They are not all that I would like, nor all that you as architects would desire, but I do think they are having a good effect throughout the Province as a whole.

For instance, we had a report from Sudbury within the last week to say that the quality of the work done there is having a very excellent effect on the building adjacent to where the work is going on; that it has already practically changed the character of one of the sections of the town, and that the quality of the work being done is a good deal better than has been done for that class of house in Sudbury before.

I think the same remark applies to the work that is being done by a number of the associations around Niagara Falls. There is much good work in general being done, and on the other hand there is work being done that is not as good as it might be. It is very hard for anyone in my position to get the right kind of influence on this scheme, because the kind of plans we get are not always what one would wish. Sometimes the price of paper seems to be so high that some people think it a good thing to save up the paper they get from the laundry or the grocery, to make their plans on. When we get a case like that, one has to be not merely an architectural critic but an architectural prophet to know what kind of building they intend to build. We could hold everything up to-day if we insisted on getting the very best of plans and all the information necessary. But we have attempted to do a sort of educational work by enlisting the co-operation of the local Commissions.

After all is said and done, the money behind this scheme is not Dominion Government money, nor is it Ontario Government money, it is money that belongs to the municipalities where those houses are building. While the assistance in the first place has come from the Federal and Provincial Governments, at the same time the security behind the movement is the municipal security; and therefore we feel that the more we can decentralize the authority that is coping with this problem, the better the educational features will be throughout the Province and the less we will have of the evils of bureaucratic methods.

I have been connected with the Ontario Government long enough to know, in connection with these public institutions, that centralization carried too far is a bad thing. As you know, all our public institutions in Ontario are administered by a central authority here in Toronto, and my experience in that matter has led me to the conclusion that it would be better for us and for those institutions if the people in the towns where they are located had more to do with their administration and the various responsibilities connected with them. At present the Act in Ontario operates in this way, that the local Commissions are appointed by any municipality or township that cares to come under the Act, and they in turn are advised by the Government to get an architect; to get a surveyor to survey the sites; and to appoint an inspector to inspect.

The city of Toronto, as you all know, does not come under this Act. It has a special Act of its own, and does not take any notice of the Ontario Act this year.

In the municipalities and towns of which I speak, however, some of the Commissions are doing splendid work and have produced a very fine effect in their localities. Other Commissions, of course, have to be educated up to that point. They do not want to take any responsibility. They receive everything into their mill, whether done in the form of wrapping paper or good blue prints, and they shoot it all down to Toronto in the hope that we will catch all the bad things. To do that would mean the creation of a central bureau, which would be altogether too expensive.

Under the United States Government, the cost of their overhead administration for their housing schemes was eight per cent. If we started in to spend eight per cent. of the eight or ten millions which will be expended on housing, I know that it would not meet with the approval of the taxpayers.

At present our overhead in Ontario runs about one per cent. We cannot expect the Department to give the same attention to supervision for one per cent. that costs the American Government eight per cent. So we are trying to pass the responsibility back and by educational methods get the local Commissions to assume more of the burden of administering this Act.

Up to the present time, of the thirteen hundred houses which are well under way, over a thousand are on individual lots. Of course, that means that so far we have not really got down to very much of the group development. That, however, is coming. All the evidence goes to show that the Ontario Government will be asked to spend by the end of 1920 or 1921, close on to twenty millions on this scheme, and it seems equally evident that next year nearly all of the schemes that will come under the Housing Act will consist of group developments in the hands of the best architects of the Province and with good town planners and good municipal engineering experience at the back of each project. This year's work must be regarded more as pioneering and as an experiment in educating Housing Commissions to the point where they are willing and ready to go ahead and assume the larger burden of developing a piece of property in the way it should be done. At the present time the Commissions would rather fight shy of that responsibility, and they simply welcome the man who comes in and says, "Here is a lot and I want to build a house on it." There is a great deal less responsibility and work for them, and less technical responsibility required, to encourage that kind of applicant than to attempt such a scheme as Linden Lea in Ottawa.

The reason why the Housing Act is appealing to the individual in Ontario is not very far to seek when I cite to you some figures. For instance, as to the cost of the buildings at New Toronto. For a six-room detached house there, solid brick construction, shingle roof, designed by one of the best of your associates here in Toronto, the contract was about $3,005, and roughly speaking about $300 or $400 more than that is required for the local improvements and other things necessary to finish the house. Now, on twenty years' payments that means that it takes about eight per cent. for capital and interest, and the man who is buying that house and is going to own it, is going to be living for the next few years anyway at practically a rental of twenty-three dollars a month.

Now, you know enough about the building conditions in Toronto to realize that when that sort of figure is put before the average individual in the outskirts of Toronto and throughout the other cities of Ontario, the scheme is going to be popular.

In Toronto there has been quite a hitch, and the results have not been as successful as everyone hoped they would be; but perhaps next year they will get over that difficulty.

Architectural Education

Paper read by Mr. W. D. Cromarty before the Royal Architectural Institute of Canada.

INDIVIDUAL views on architectural education as on other subjects, war gratuities for example, have value in that they may serve to promote discussion among a group of thinking men. It is on that basis I am putting forward my views, not suggesting that here is the panacea for all architectural ills.

You may recollect the story of a Professor of Physics I think, who had given the same series of lectures for about a dozen years. On this fact being mentioned to him he replied in a terrible voice, "My dear sir, truth never changes." This may, of course, be an exaggeration, but there can hardly be any doubt that education in general tends to shape the mind in an accepted fashion, methods that have stood the test of time quite naturally prevail, newer things are apt to be distrusted. It is therefore desirable that from time to time the tendencies of education should be reviewed by interested outsiders.

There would appear to be a tendency in the architectural schools to regard the students as the property of the professor, he guarding them from the wiles of the outer world of architects. Why else would the student be required to design for example "A king's palace set in a wooded park?" The average practicing architect's acquaintance with kings is of the slightest, though it is true that if he lives in Toronto he may shake hands with a prince.

This tendency serves to make architectural education more and more academic, to deal less with the practical requirements of the everyday architect. Now, whatever may be the case in France, on the lines of whose great school practically all the others are founded, there is very little doubt that in Canada the architect has become by force of circumstances a business man first and an artist later. That may be unfortunate, yet every architect in practice knows that if he is to survive it is essential that his clients get value for money expended. If we grant that such is the case, then it follows that the architectural colleges should be prepared to give the student a grounding in the business of architecture. At present a great deal of time is spent in making elaborate drawings of, say a Corinthian capital, yet practically never is that strange and elusive being, the contractor, mentioned. Now it is possible that in his subsequent professional life it may never be necessary for the student to make a large rendered detail of a Corinthian capital, but he is almost certain to come into frequent contact with the builder, and he may to his sorrow learn something of the lien law.

Too much time can easily be spent in the drawing and rendering of the orders, frequently they are copied from books as isolated portions, and the student does not realize for some time that the base and the capital have any relation to one another. One might indeed go farther and say that too much time is spent on purely antiquarian problems — the reconstruction of ancient temples and such like. The influence of such teaching is all around us in architecture and sculpture. Painting has, to some extent, freed itself of the shackles of the past. To take a recent example in sculpture—the British War Medal design. Here we have represented an unclothed Greek youth riding a spirited and well groomed horse. Now what connection that has with the war it would be very difficult to say. I showed an illustration of it to a friend of mine, and he said, "Oh, Lady Godiva, I suppose." One would have thought that the khaki clad youth we all know so well, who went out so calmly to teach the gentle German how to behave, would offer a sufficient inspiration; that the great guns which blazed along the grim lines in France and Flanders would have provided for him a worthy setting.

I can remember a post office in the United States and an interview with a man in the street regarding it. He said, "It's Greek, ain't it?" I agreed that we might call it that. "Well," he asked, "did the gol-darn Greek have to drag himself up a hundred steps every time he wanted to buy a two-cent stamp?" The hundred steps may have been an over-statement, but no doubt that's what it felt like.

I have a great reverence for Greece, for her art and philosophy, but along with that reverence it is reasonable that one may question the wisdom of adopting her forms for whatever type of building we may have to construct, not paying enough attention to the manners of to-day, to the demand for unobstructed light in offices, for example, something not regarded as an essential in the temples of the gods.

Architectural design should, of course, retain its present position of importance in the schools, but I do not hold it is necessary that the elevators should be rendered and the shadows mathematically projected. Problems bearing on to-day's requirements should be set and the designs drawn in pencil only, noted as to the materials and with figured dimensions, this until the final year at all events. A detail of some important feature should be made and finally a perspective sketch of the building.

The elimination of the rendering allows more time to be given to the practical needs of the problem. I can recollect a student who was able to draw quite correctly as far as I am aware, a section through the great pyramid, but who was totally unacquainted with the mysterious processes of a double hung window. I think you will agree that it is more important for the student to be well equipped for the work he later hopes to do than to possess a beautifully engraved diploma. For design, the students of the second, third and fourth years might well work together. Each student from time to time should exhibit his design with what pride he can muster up, and answer his critics. This working together of men imbued with common ideals will serve to produce the best in each. The younger student sees what the elder has done or, if he is made of the right stuff, is fired by the desire to accomplish that or more; the elder in his turn is able to see how far he has progressed. The gentle art of defending his design in the face of his remarkably outspoken fellow students will also be useful in later life; it will enable the man to face church building committees and school boards with more equanimity than some of us can do at present.

The subjects taught should be related more closely than they are. There is a tendency to divide everything up into periods not readily connected with one another. Building construction, for example, should obviously be taught in connection with the design the student has made, detailing various parts in a practical way. The drawing of the orders and exercises in antiquarian reconstruction could be made part of the course in history of architecture. The report on architectural education compiled by the Illinois Chapter of the A.I.A. and the Illinois Society of Architects states:

"The student should be made to understand that the course in the history of architecture is part of his cultural foundation and is not intended to provide material to be used irresponsibly in modern building. He should be told that the styles in the present century have no longer any structural or chronological significance. No one can prophesy in the presence of a skeleton steel frame whether the building when hatched, will be classic, Romanesque, Gothic or one of the 57 varieties of the "Renaissance."

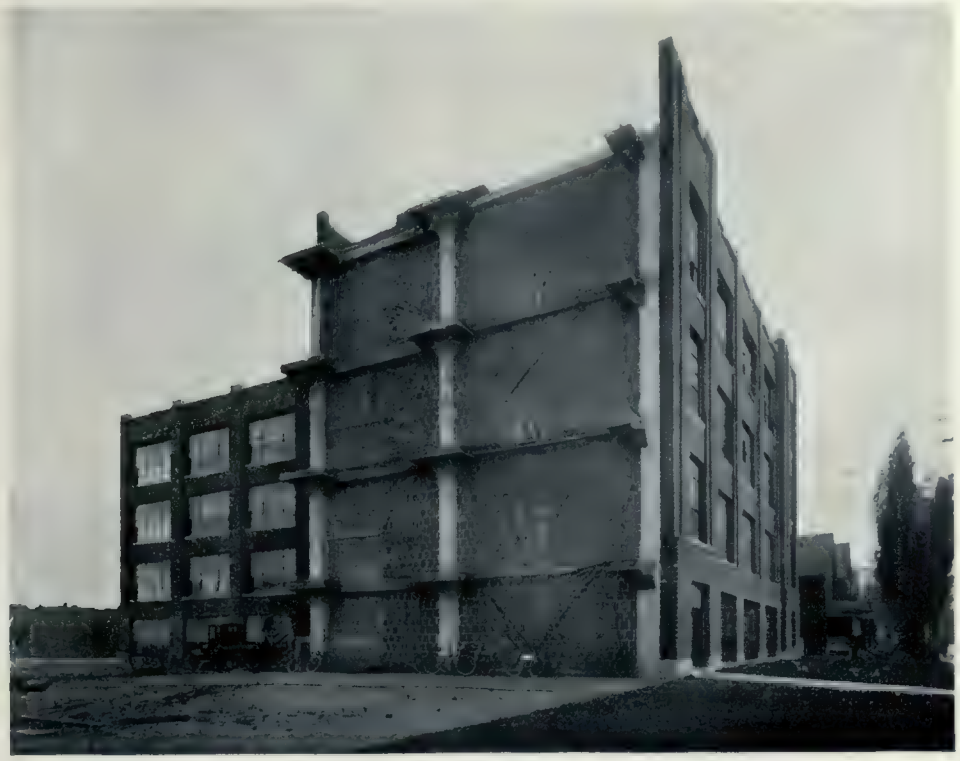
While the study of historic ornament has its importance, the student should not be exclusively trained to draw always the accepted forms. We might copy the Greek in the spirit and not in the letter. We have all around us a wealth of flowers, fruits, leaves, animal life. If these are introduced as a basis for design, would not the mind of the student be refreshed and his imagination fired? From such study creative design would more surely be evolved than by the drawing of what I once saw described in an architectural competition program as "miles of monotonous mouldings."

The study of mathematics should be cut down to a minimum; to many students it is productive only of mental anguish. Wild flights into the higher regions of the calculus are a mere waste of time for the architect. There are plenty of curiously constructed people in the world who find joy in working at such abstruse problems; it is unnecessary to add to them from the ranks of architects.

The length of an architectural course is in itself probably too short. It is true that it extends over four years, but in Canadian universities at least it actually occupies, owing to the long vacations, only two years, and the first session at present dealing only in small measure with architectural subjects it really becomes only eighteen months. It would probably work a great hardship if the course was lengthened, therefore the practicing architects must assist. They must make it possible for the student to spend certain of the long vacations in their offices and pay him for his work. This is essential in order that the student may be at least partially self-supporting. The receiving of some small wage will help him to be self-respecting and increase his interest in his work.

One long vacation might well be spent in a contractor's office where the student would be afforded the opportunity to go out on various jobs. He might take a turn at being a carpenter, try his hand at concrete mixing, and in various ways the time so spent would be of great value in his future work. If the course remains of four years' duration only, then the first year must be made more definitely architectural. This can be accomplished by requiring a certain number of subjects now taught in the first year as entrance subjects.

Two long vacations must be spent in architect's offices, one long vacation in a contractor's office. I wrote down these varied notes in odd corners as they occurred to me; they might be summed up thus: The student should not regard his college course as an end in itself, but as a preparation for a many-sided and likeable profession which requires the exercise of a certain amount of business method in that architects are responsible for the right use of large sums of money. Design in the grand manner if you will, but construct and carry on in the grand manner also.



NEW TECHNICAL SCHOOL, HAMILTON, ONTARIO.

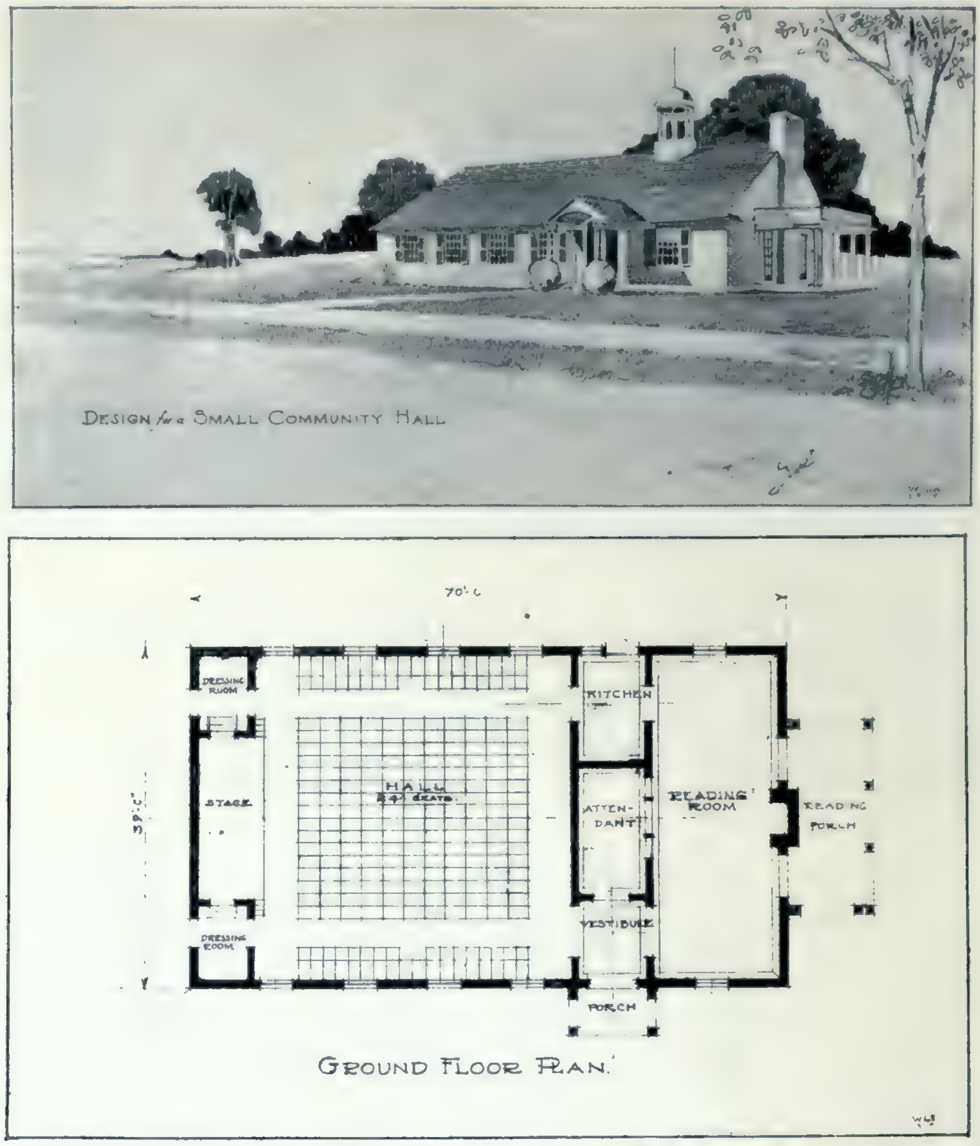
VIEW SHOWING PRESENT END WALL WITH CONCRETE CONNECTING RODS READY FOR PROPOSED EXTENSION.

MACHINE SHOP, NEW TECHNICAL SCHOOL, HAMILTON, ONTARIO.

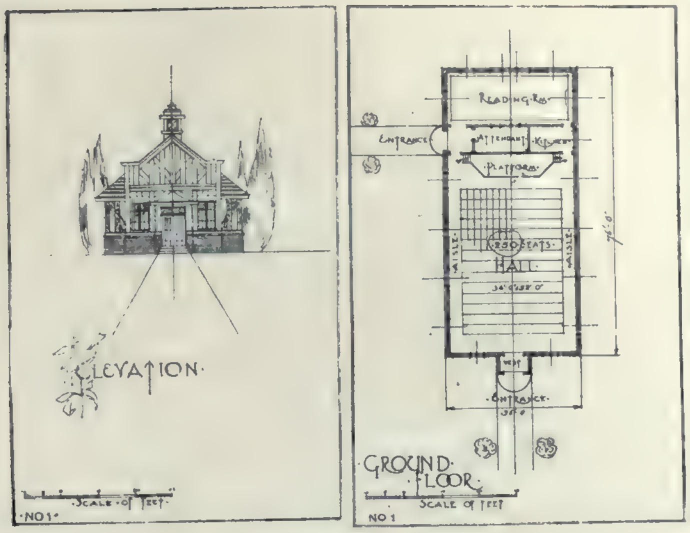
Community Halls for Rural Ontario

Recognizing that social as well as economic conditions have much to do with community development and well being, the Ontario Legislature recently passed what is known as "An Act Respecting the Establishment of Community Halls and Athletic Feilds in Rural Districts." The object is to provide proper meeting places for community gatherings and for organized community effort. Under the Act it is required that buildings for such purpose shall include an auditorium with movable seats, reading room and kitchenette and library; further that the auditorium shall have a level floor and platform with space suitable for recitals, dramatic entertainments and the discussion of public questions. It also provides that adjoining the building or in close proximity to it there shall be a three acre site for athletics, picnics and outdoor gatherings. The intention is that such a building and its surrounding ground shall be available for all meetings and gatherings of a community nature in the broadest sense possible; and financial assistance is to be given to any community taking advantage of the Act in the way of a government grant amounting to 25 per cent. of the cost of the building, said grant in no caseto exceed the sum of $2,000 and in no way to apply to the cost of the land.

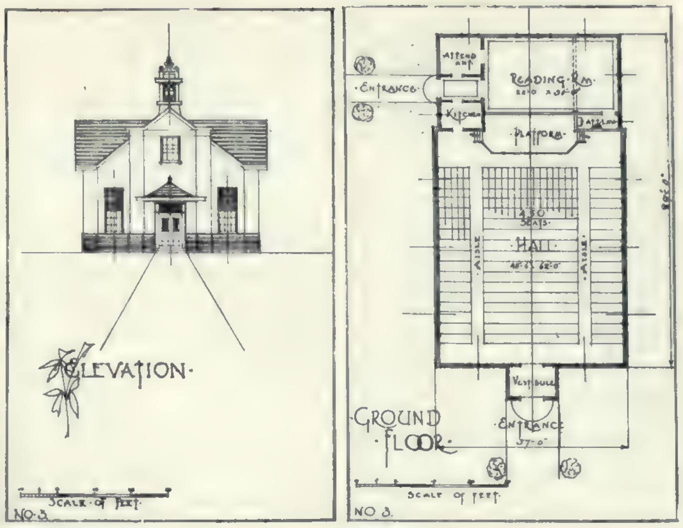
Briefly the Community Halls Act 1919 is a most desirable and commendable piece of legislation. There is a need for buildings of this type both in Ontario and in all of Canada, and during the present period of reconstruction an effort should be made, particularly in rural communities, to encourage that class of design which would set a standard for the entire district. But this is just where the Government fails in its otherwise progressive scheme. Indeed such inappropriate designs as appear in the Bulletin dealing with the Act, is virtually "tying a tin



COMPARATIVE DESIGN, SHOWING A SMALL COMMUNITY HALL OF ATTRACTIVE CHARACTER, INVOLVING THE SAME ACCOMMODATIONS AS PLAN NO. 1, ON OPPOSITE PAGE.

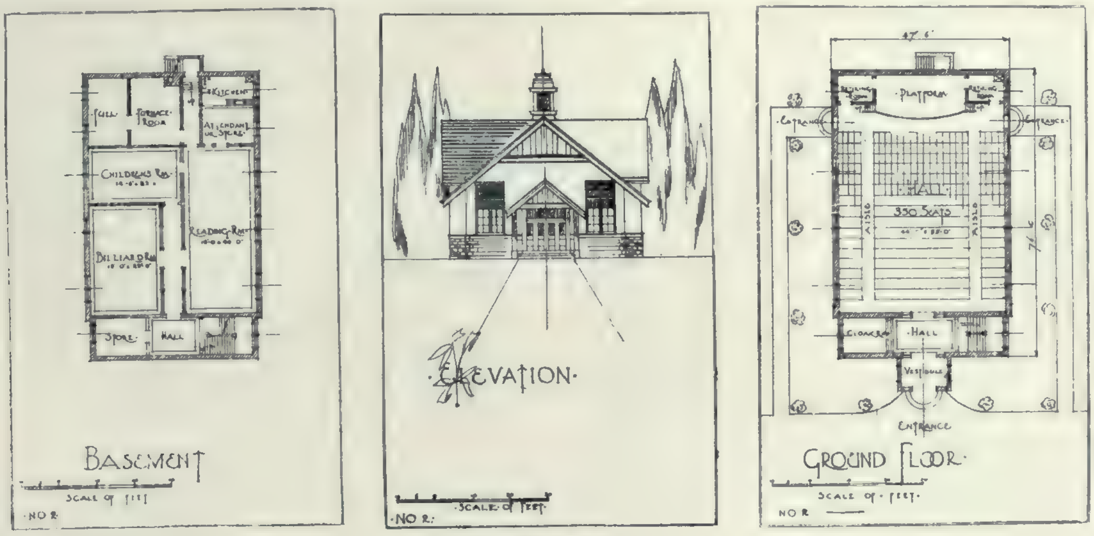


DESIGN NO. 1.



DESIGN NO. 2.

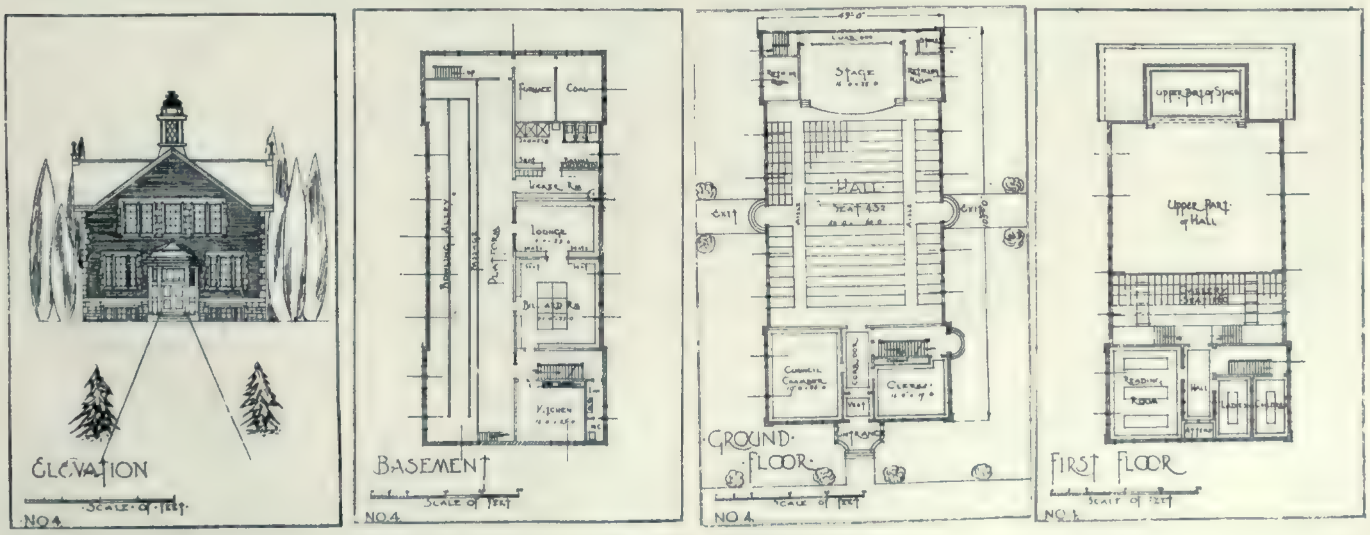
can to its tail.'' At the very best they would produce buildings which would be meaningless, and totally lacking in architectural interest.



DESIGN NO. 3.

While it is explained that it is not necessary that these plans should be followed entirely, at the same time it is stated the intention is that they should serve as a guide with modification to suit local conditions.

The elevation of Design No. 1 in the Bulletin, for instance, has absolutely no architectural character, unless there is such a thing as ''bad character'' in Architecture. It merely tries to



DESIGN NO. 4.

DESIGNS FOR COMMUNITY HALLS RECOMMENDED IN BULLETIN 273, ISSUED BY THE ONTARIO DEPARTMENT OF AGRICULTURE.

be pretentious by putting on an elaborate, illogical entrance.

In Design No. 2, the plan places the rooms which will be used the most in the basement. As the Act requires that the building be placed on a tract of land at least three acres in extent, such a plan seems entirely uncalled for and is something that should be condemned rather than recommended by a Governmental Department. The amateurish way in which the design is presented is shown by the fact that the elevation does not agree with the plan.

In Design No. 3, the plan is very much like No. 1, only much larger. It could be improved by placing the reading room at the front instead of the rear.

Design No. 4, shows a plan which is badly cut up by the stairway on both ground and first floor. It is particularly bad in the arrangement of the exit from the gallery which land the crowd from the gallery in the narrow hall used as an exit from the main floor. If this stair were reversed it would be better. Such a building could be made much more attractive if a more irregular plan were used instead of the deep narrow building which seems to be developed in every case. Considering the fact that these halls are to be erected at cross roads or in a small village the several plans shown are anything but suitable, except perhaps the smallest one which naturally develops into a plan of the shape it assumes.

In a word the chief criticism of the several designs is the fact that they do not represent Canadian tradition or try to develop prototypes which are to be found in such buildings in England, or the better aspects of recent work of this kind in the United States. This perhaps could be overlooked if the designs were good in themselves but they are decidedly amateurish, ill-proportioned and positively ugly.

The extent in fact to which the several designs could be improved is shown in the "Comparative Design" on page 362, which takes as a basis the accommodations involved in design No. 1. This comparative study shows a rearrangement of the plan which places the reading room and the entrance nearer the corner of the lot, and at the same time provides one entrance to the building instead of two, thereby reducing the cost and making the building more attractive. This makes the reading room more accessible and gives it a better aspect than if placed at the rear as indicated in Plan No. 1. Moreover, Plan No. 1 shows a seating capacity of 250, while as a matter of fact it has only accommodation for two hundred and twenty-four. In the rearranged plan of the "Comparative Design" the length of the building has been reduced and its width increased and seating provided for 244, on a slightly less total ground area.

Considering the improvement noted and which could be applied to the other designs by giving them proper architectural thought, it seems highly important that the provincial authorities, particularly at the present time on the eve of what is apparently going to be a period of unusual activity, should avoid anything which would inflict on the country as a whole such atrocities as the designs in the Bulletin suggest. A community house must be more than a mere building; it must be attractive to those who use it, and if designed with dignity and good taste, it should go far in districts without any architectural traditions to establish a standard for other buildings.

The Act, therefore, in reference to the class of buildings it will bring into existence might well receive the attention of the incoming government, which will find the United Farmers' party mainly in control. In order to improve the standard of design, a competition might be held with nominal prizes and an appeal made to architects on educational grounds. It is something which would undoubtedly receive a larger measure of support from the profession and obtain for the government that necessary co-operation which would create a desirable class of buildings in the rural districts. As it is the designs presented in connection with the Act are architecturally of a decidedly inferior character, and something vastly better should be provided.

Designing a House

If you would design a house for any man, you must understand his real needs and sympathize with his highest ideals and distinguish between what is noblest in his nature and that which is pure convention and vulgarity. Pandering to every whim and fancy that is petty will not result in anyone's happiness. By multiplying the number of rooms, every room is often spoiled by being too small. An artisan's dwelling cannot fitly imitate the villa of a bank clerk, or any other class of dwelling other than his own. With sympathetic tact men may be led to contentment in simple, unpretentiousness. Frankness and honesty must win the affections in the end, and it is libelling human nature to assume that the workingman wants his house to be like that of the class above him. He has abundance of common sense, and his wife will bless the architect who omits the dust-catching ledges, painted wood linings, architraves and skirtings that encumber most houses.—C. F. A. Voysey.

CONSTRUCTION

A · JOURNAL · FOR · THE ARCHITECTURAL
ENGINEERING · AND · CONTRACTING
INTERESTS · OF · CANADA

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Vol. XII Toronto, Nov., 1919 No. 11

Draughtsmen to Form Atelier

The endeavor which is being made by the Toronto chapter of the recently organized Draughtsmen Association to form an atelier approximating the lines adopted by the New York Beaux Art Institute of Design, is something which should meet with encouragement. Many students in the office have no other means of improving their knowledge of design, and consequently a movement of this kind could be made an important factor of education especially for draughtsmen who, through no fault of their own, cannot afford the advantages of a college course. Such a system of study could be made an efficient auxiliary to the student in his practical office work, and would hence make the draughtsman of more value to his employer. Of course the success of an atelier will depend on inaugurating it under proper auspices, and on the support it receives from competent architects acting in the capacity of patrons. This, however, seems to be assured. Several prominent members of the profession, it is understood, have already expressed a willingness to give liberally of their time and ability to help the movement along. The movement is not in any way intended to replace the college course which certain members of the Ontario Association of Architects now insist on as a qualification of students entering their office, but rather to supplement the knowledge gained by practical work and to give draughtsmen in general an opportunity to better their conditions.

◆

Canadian Building Industries Conference Date

An announcement has been sent out by Secretary J. C. Reilly, correcting an error in a recent circular which has given rise to some misapprehension concerning the date of the Second Annual Conference of the Association of Canadian Building and Construction Industries to be held in Ottawa, January 27th-30th, inclusive. The announcement states definitely that the meeting will open on the morning of the first day mentioned in the Chateau Laurier, and will continue throughout the week.

In view of the present great need for united action and intelligent co-operation among Canadian builders, contractors and supply men, a full attendance at the conference is earnestly urged. Attention is drawn to the fact that while the coming season promises to be a banner for the building and construction industries, there are many new conditions and grave problems arising which call for the fullest investigation and frankest discussion.

It is also announced that it has been decided to cancel the Western Convention which was to have been held this fall, though provincial rallies will be arranged in the West, preparatory to the general conference.

◆

Exhibit of British Grown Timbers

The British Trade Commissioners in Canada have been notified by the Department of Overseas Trade of the British Government that the Department are organizing an Exhibition of timbers grown within the British Empire to take place in London from the 5th July to 17th July, 1920.

The classification embraces: (a) Specimens of timber (polished and unpolished); (b) Exhibits demonstrating the various uses to which timbers are put, viz., floors, panelling, staircases, furniture, ply wood, and articles of everyday use: (c) Wood pulp.

The main object of the exhibition is to bring prominently before architects and inspectors, firms who have to specify timbers in their contracts, as well as the users and consumers of timbers, the full range of Imperial grown timbers and especially those timbers which up to the present are only very slightly, if at all, known in this country, and at the same time to demonstrate the chief uses for which such timbers are suitable.

A catalogue will be issued giving full particulars of all exhibits displayed, and will include among other features:

(a) A short concise statement regarding each kind of timber exhibited, showing the size in which it is usually obtainable, and the purposes for which it is specially suited; also giving the following particulars, viz.:

1. Weight in lbs. per cubic foot.
2. The result of tests carried out with regard to:
    - Tension,
    - Compression, both with and across the grain,
    - Detrusion,
    - Modulus of rupture,
    - Modulus of elasticity,
    - Fire resistance.

(b) A list of the shippers of the various kinds of timber in each of the Dominions.

(c) A list of importers and large timber merchants in the United Kingdom who would be prepared to supply the various timbers to users in this country.

The British Trade Commissioners in Canada are as follows: G. T. Milne, O.B.E., 367 Beaver Hall Square, Montreal; F. W. Field, 260 Confederation Life Building, Toronto, and L. B. Beale, 610 Electric Railway Chambers, Winnipeg.

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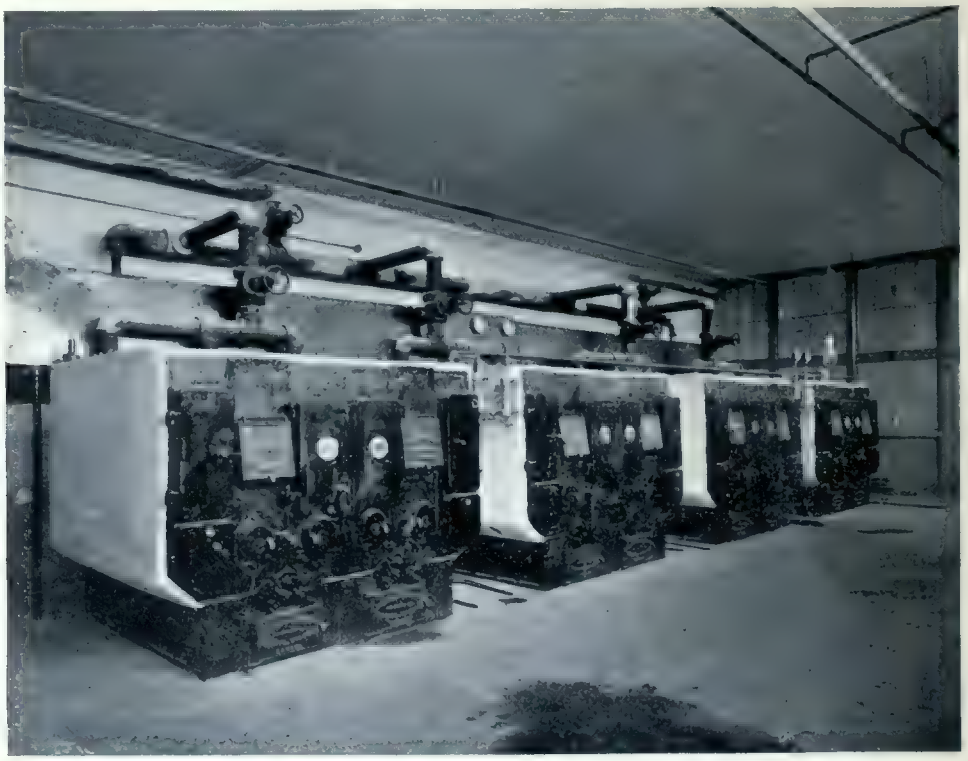

SPENCER BOILERS, INSTALLED IN NEW MEMORIAL SCHOOL, HAMILTON, ONTARIO.

CONSTRUCTION

December, 1919 Volume XII, No. 12

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DETAIL OF BANKING ROOM, BANK OF HAMILTON BUILDING, WINNIPEG 368

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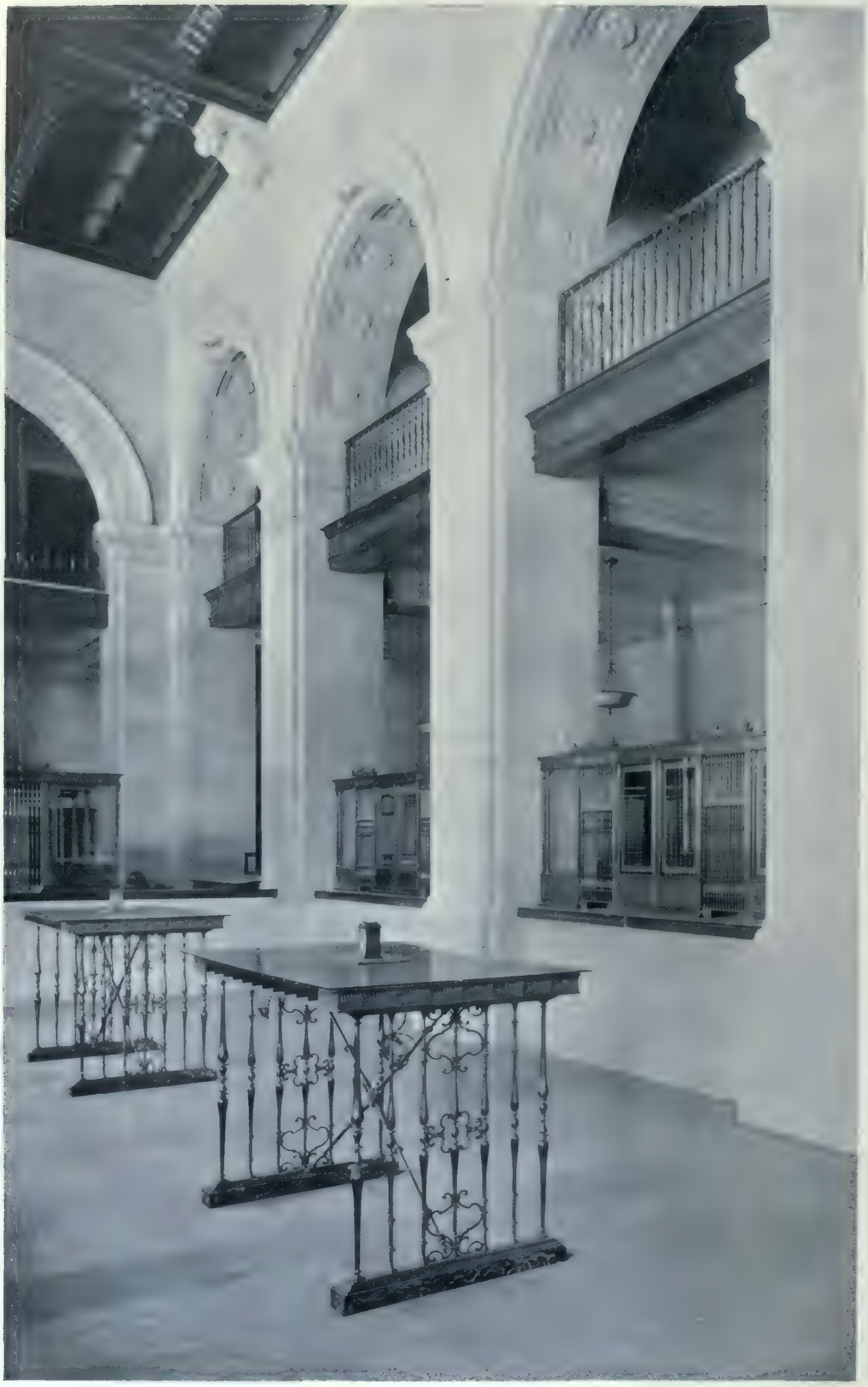


DETAIL OF BANKING ROOM,

BANK OF HAMILTON BUILDING, WINNIPEG, MAN.

JOHN D. ATCHISON & COMPANY, ARCHITECTS.

H. C. INGALLS AND F. B. HOFFMAN, JR., ASSOCIATE ARCHITECTS.

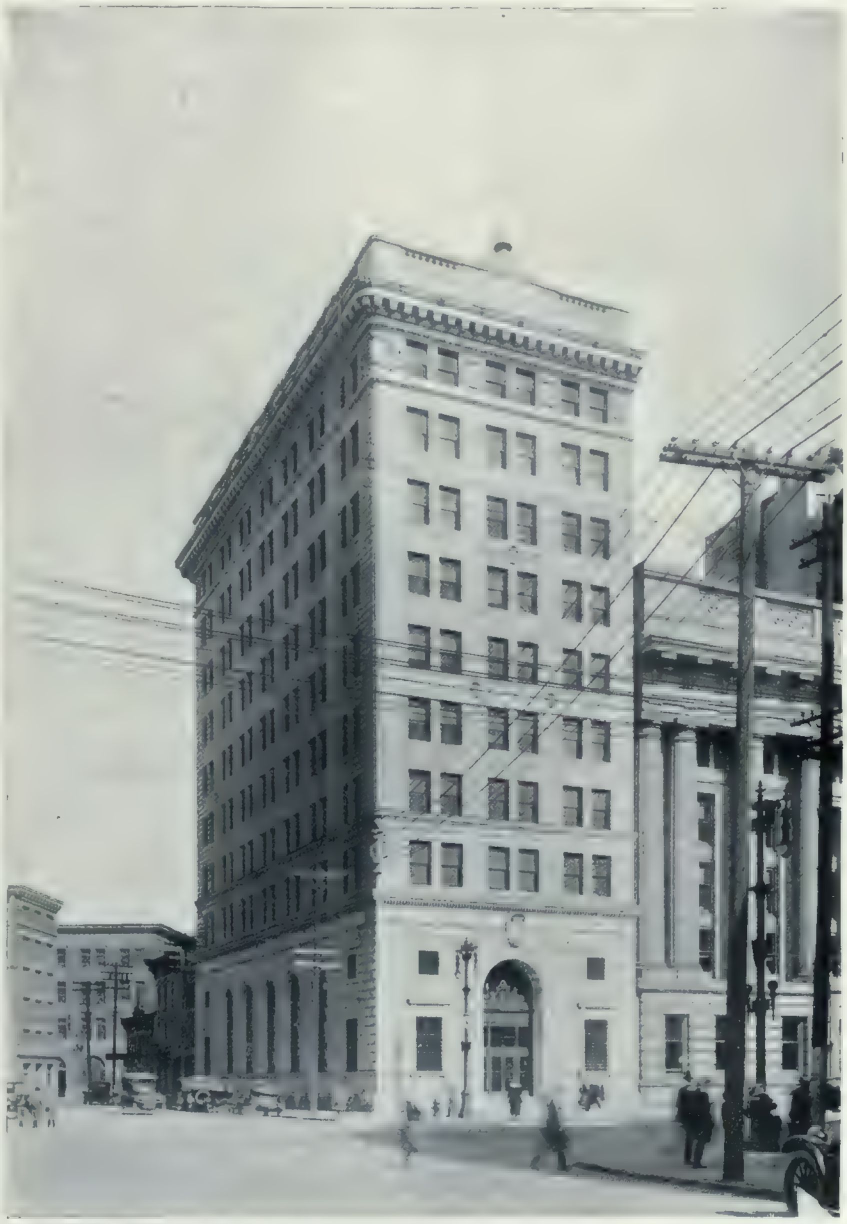
Bank of Hamilton Building, Winnipeg

By Prof. A. A. Stoughton, Department of Architecture, University of Manitoba

IN the new Bank of Hamilton Building the task of the architects was to give suitable expression to each of two parts—the office building and the home or workroom of a large bank—of which it is composed, and of harmonizing them in unified composition. This they have done admirably, at the same time solving an even more difficult problem of neighboring the massive Bank of Commerce without being outclassed by the great scale and mass of its colonnade. They deftly avoided any such trial of strength by adopting an entirely different treatment and scale and method of fenestration. No columns occur in the facades. Instead, the wall surfaces are unbroken except by simple openings, and are treated with a square sinkage in the stonework which emphasizes the solidity of the masonry, by a decorated crowning story and cornice, and by a few elegant sculptural accents at significant points.

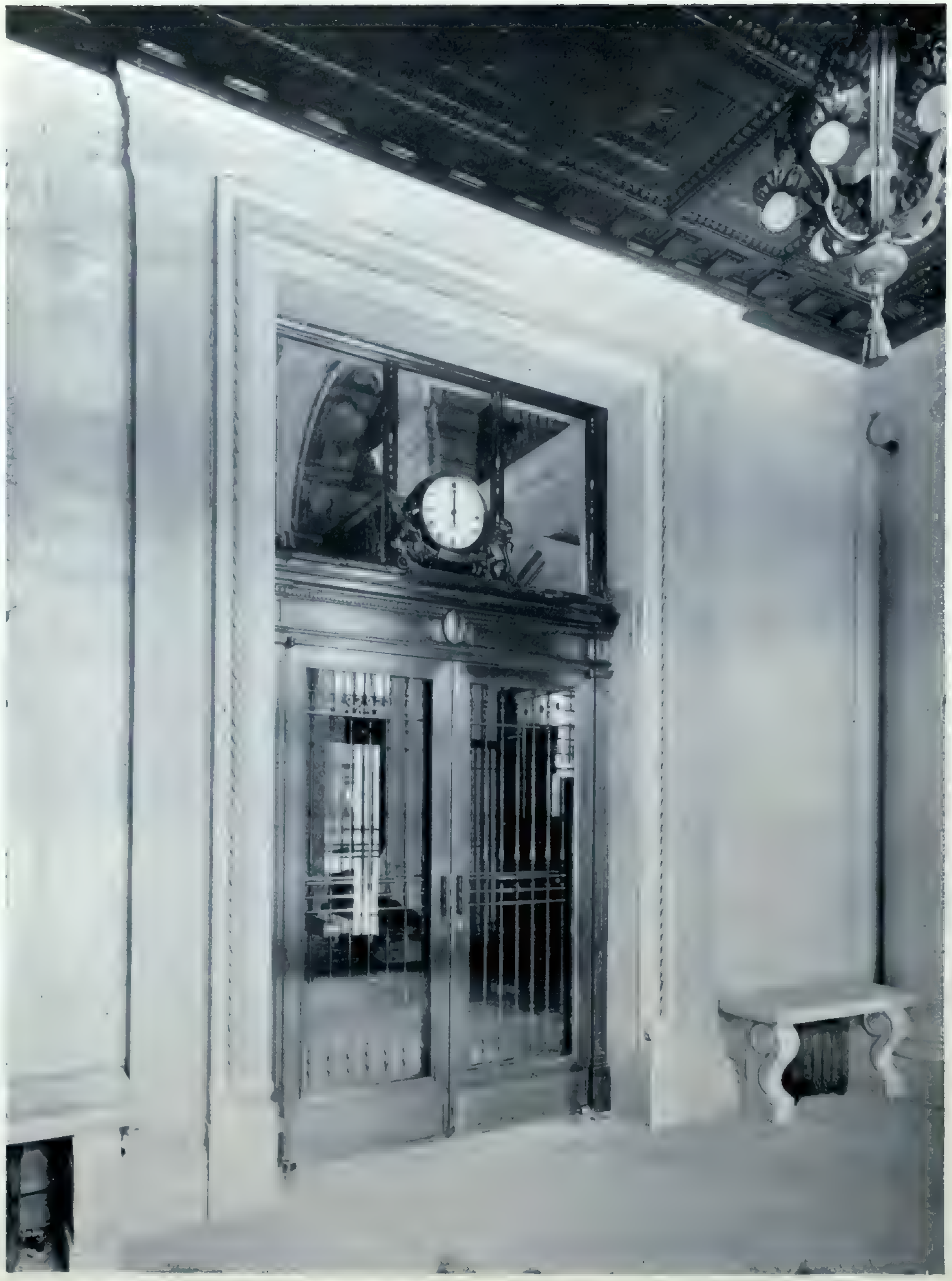
The upper stories which are given over to offices are indicated by the small rectangular windows, while the bank's quarters are distinctly marked by arcade openings that forms the motive of the high ground storey. The entrance to both parts is through a high arched doorway which is rendered impressive by the simplicity of its treatment, and which is given scale by its delicately detailed bronze grille. This archway with its greenish initial tracery silhouetted against the great blackness of its shadowy depth, and its elegant keystone cartouche, is the feature of the facade; the rest of the wall in being kept simple giving it the fullest effect. At only one other point is a decorative note struck, namely, by the cartouche on the corner bearing the arms of the Bank. The name of the bank appears in bronze letters on the freize over the entrance, while an agreeable effect is given to the wall surfaces by the fossiliferous marking of local Tyndall stone.

Entering, one steps into a square hall flooded with light and walled in Botticino marble and with ceiling of antique gold, which forms a vestibule to the bank as well as to the elevator and stair hall. A noteworthy feature of the scheme here is an elliptical stair leading to the superintendent's department, the simplicity of the graceful spiral of the string curving upward without visible support and carrying a light bronze handrail on turned spindles, being a particularly fine achievement. The walls are extremely simple and the character of the vestibule worked out mainly with cornice, door and base mouldings, low marble benches, and the ceiling enrichment.



BANK OF HAMILTON BUILDING, WINNIPEG.

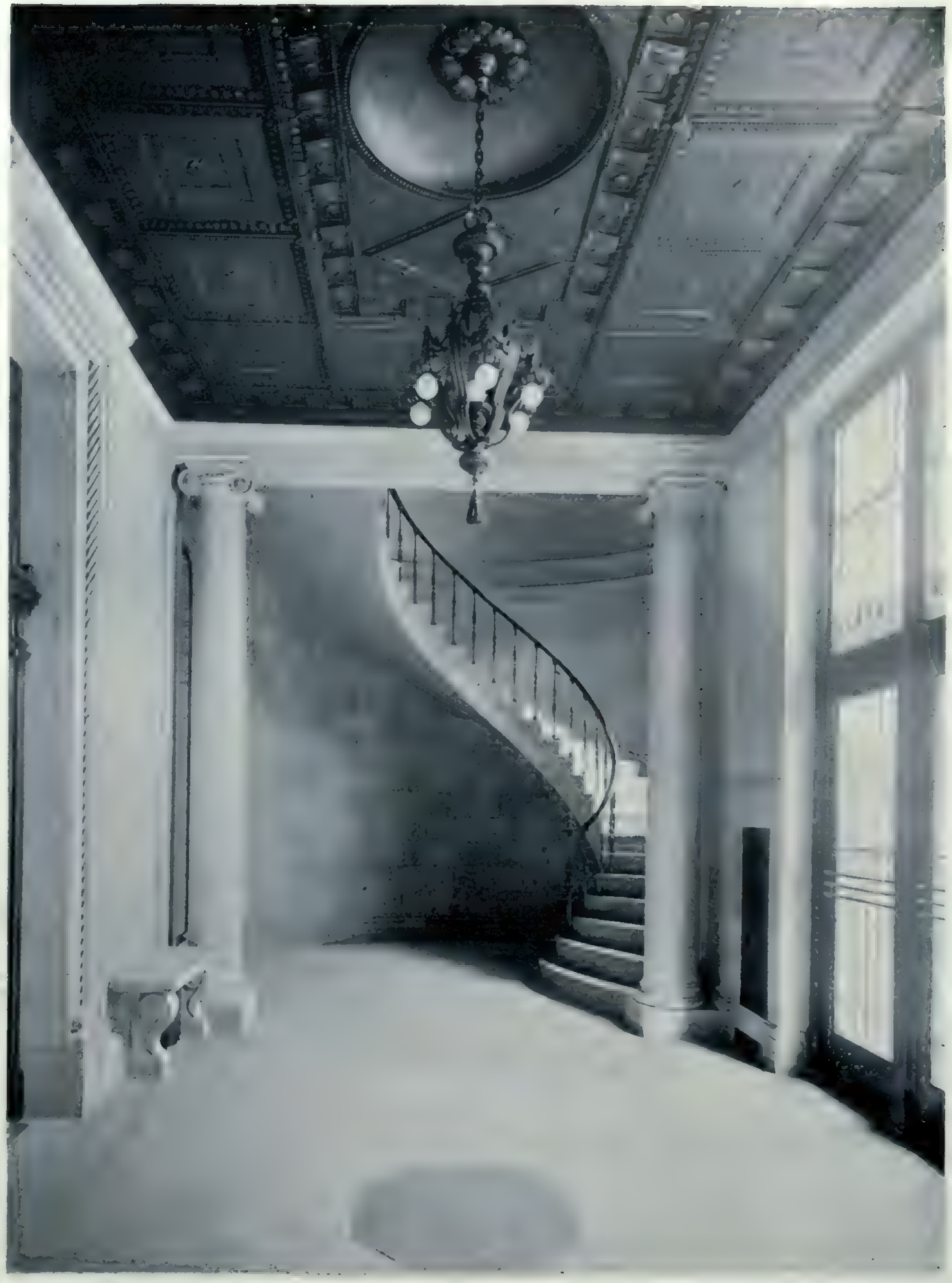
In the banking room the arcade which outwardly expresses this interior so well, continues as the dominating motive of the architectural scheme. It forms the four walls, admitting the north light from McDermott Avenue, and separates the banking room from the alcove spaces in the main storey mezzanine, used for clerks and files and automatic tubes and telephone stations. Altogether the result of this splendid



DOORWAY TO BANKING ROOM.

JOHN D. ATCHISON & COMPANY, ARCHITECTS.

BANK OF HAMILTON BUILDING, WINNIPEG, MAN.



VESTIBULE, LOOKING TOWARDS STAIRS.

H. C. INGALLS AND F. B. HOFFMAN, JR., ASSOCIATE ARCHITECTS.

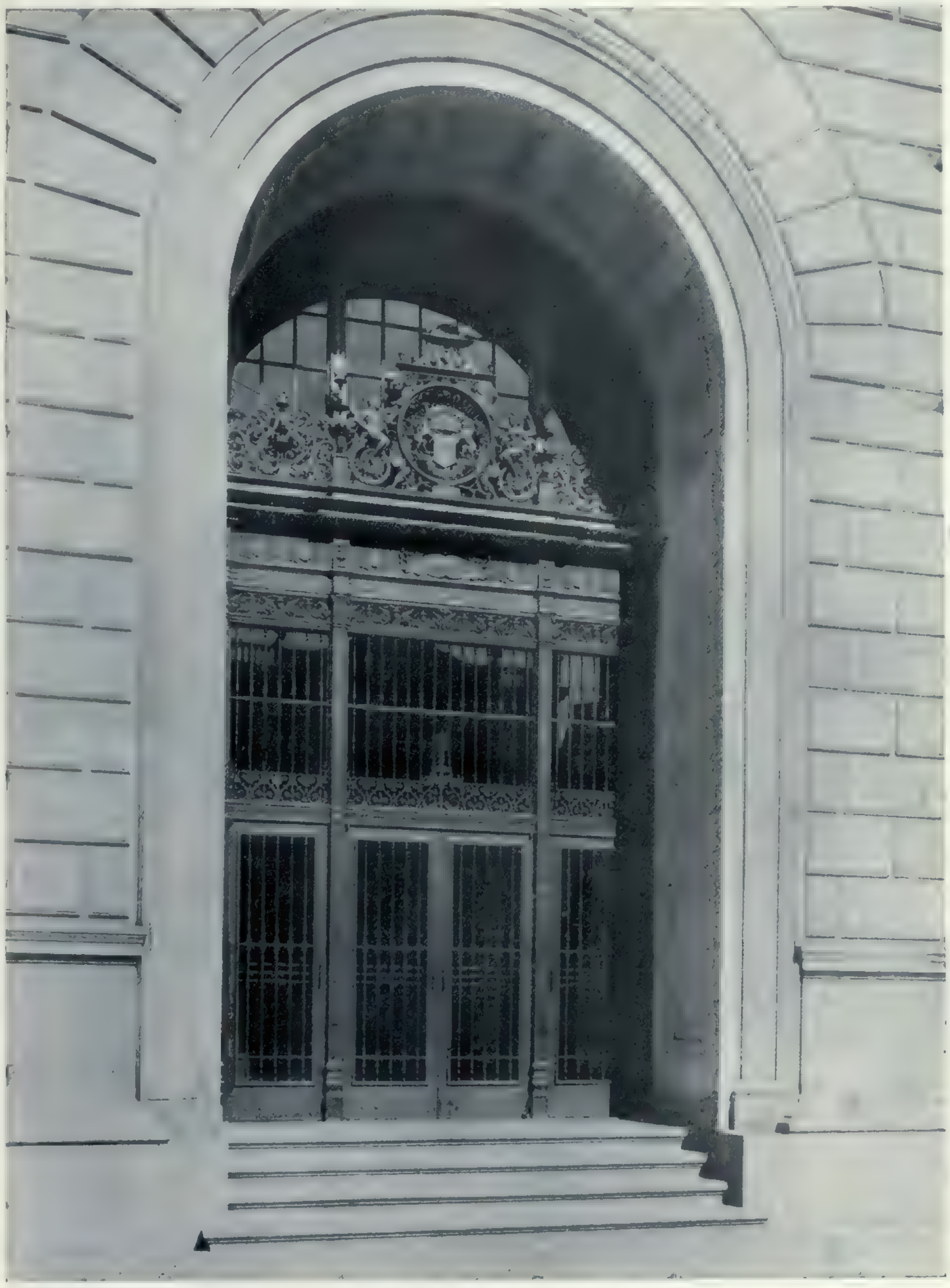
room quite establishes that an effective treatment is not dependent upon elaboration of workmanship but may be achieved by fine proportions, the discriminating use of features and detail and by emphasis rightly placed. The walls are of Botticino marble, warm grey in tone. The floors of colored marble in geometrical patterns. The moldings are few. There is small use of carving. The note of strong color occurs in the ceiling. This together with the Belgian black marble counter tops, the bronze screens and the dark wood and upholstery of the furniture, gives the room an interest and character relieved of all monotony or greyness. The ceiling is rich and beautiful and has dark beams, supported by marble corbels, and glowing with bright color in varied ornamental patterns, well set off by the dull-greenish hues of the spaces between.

The bronze of the tellers' enclosures, of the mezzanine balcony railing, of the clock over the entrance to the banking room, of the elevator enclosures and easel directory, and of the lighting fixtures, is of the finest design and workmanship, carrying out the character of sobriety and good taste which characterizes the whole building.

The counter screens in the banking room are as few as possible, and except where money is actually handled the counters are low and free of obstruction, and offers the freest welcome to those doing business across them. All the officials, except the manager, have their desks in the main room, close to the counter as one enters, so that anyone may accost them without an intermediary. The managers room is at the front, and is accessible from both the banking room and vestibule.

The mezzanine gallery accommodates clerks and files and other services, while the whole of the second storey is devoted to the use of out-of-town superintendents, except the Main Street frontage, which is devoted to the Board room. The latter is a well-proportioned Jacobean room, finished in dark oak and richly finished and pannelled to the ceiling which is beamed. The fireplace is in grey stone, and the table and chairs designed in keeping with the character of the room.

The equipment features of the building have likewise been most carefully considered. Intercommunicating tube and telephone systems afford the most direct and immediate transfer of messages and papers from any point to any other. An official or clerk may be called, or put in immediate communication with a customer. Below the stairs there are immense vaults for the safeguarding of money and books and documents, which embody the latest features in scientific protection and control and fittings as well as the uttermost achievement in construction and workmanship. Time locks and a per-



DETAIL OF MAIN ENTRANCE.

Photo courtesy of Travers Sweatman.

BOARD ROOM: BANK OF HAMILTON BUILDING, WINNIPEG.

fect nerve system of wires, which ring bells in the building and in the street if any part of the locks or bolts are tempered with, guard the treasure. A teller or clerk in event of a hold up can push an emergency button with his knee. Light, but strongly built trucks carry books from the cages to the vaults. A private, automatic elevator at the rear of the building serves all stories of the bank. The lighting fixtures are specially designed and the heating and ventilating system conforms to the best principles of modern engineering practice. In a word of all the manifold appliances and devices that ingenuity has created, the best and most modern have been introduced. The building as a whole, in all its adjustments to special conveniences and needs has been worked out most intelligently and artistically, science and art going hand in hand in devising the arrangements, constructing soundly, and treating nobly all its parts and features.

The structure rests on concrete caissons from four to six feet in diameter, extending to bed rock, a depth from sixty to sixty-five feet. The super-structure is of steel construction protected by concrete and with concrete floors. The exterior walls are all brick and hollow tile faced with Tyndall stone; brick and hollow tile also being used for the inner walls and partitions.

The entire treasury vault room is lined with heavy steel plates being what is known in the trade as a "laminated steel lining," that is a room made of several layers of steel plates, at least one layer of which is of tempered hardened steel for resisting drills. The various layers of plates are all most carefully laid out, care being taken that the lengthwise seams of them run crosswise to each other in alternate layers; all corners are formed into large "knee sections," and the whole, plates, angles and knee sections are screwed together with hardened drill-proof screws of special make, in such a way that no single screw penetrates all of the layers. The steel work in this particular vault, although not so large in dimensions, weighs over twelve tons.

The entrance to the vault, consists of a heavy steel vestibule, with an outer door, folding inner doors and a steel grille gate for day use. There are four combination locks and a triple chronometer timelock. This entrance vestibule and doors weighs nine tons, the outer door alone weighing approximately three tons. This outer door is hung on a crane hinge with ball bearings and is very easy to swing to and fro.

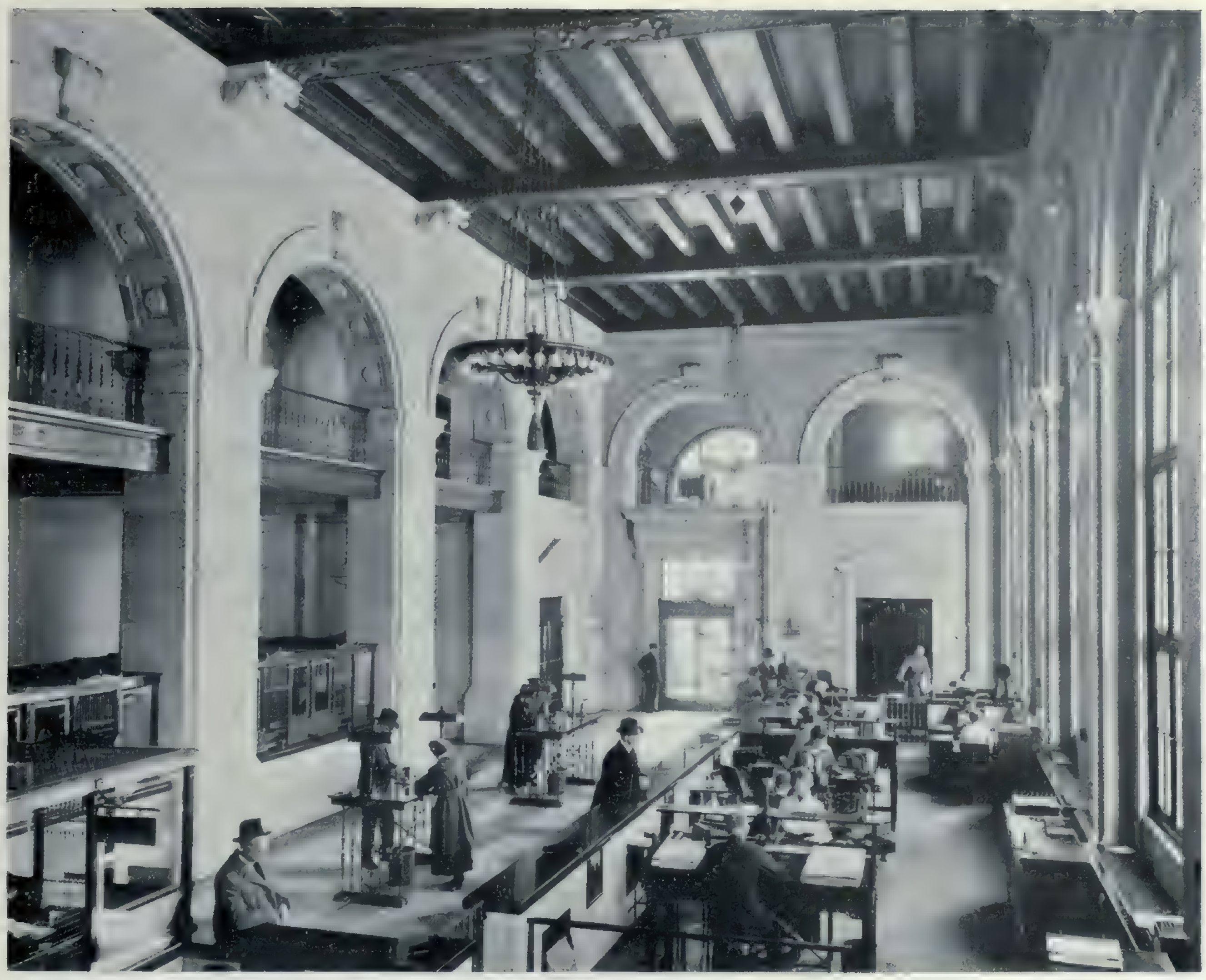


Photo courtesy of Travers Sweatman.

GENERAL VIEW OF BANKING ROOM: BANK OF HAMILTON BUILDING, WINNIPEG.

[CONSTRUCTION is indebted to Mr. Travers Sweatman, a well known Winnipeg barrister, for several of the interior views illustrated herewith. Mr. Sweatman enjoys considerable celebrity as an amateur photographer, having made a successful hobby of this work for a number of years, and his efforts in connection with the Bank of Hamilton Building not only show an intimate knowledge of the camera, but a very sympathetic understanding of its application in relation to architectural subjects.—EDITOR.]

◆

Good and Evil of Window Glass

Window glass is a recent invention, a mere matter of yesterday as we count the life of the race, and it has its bad as well as good points. In fact, there is no doubt that it is affecting our health and our industrial and social conditions very powerfully. So at least says Dr. R. E. Danforth of Rutgers College, in an article on "Window Glass as a Factor in Human Evolution," contributed to "The Scientific Monthly." Dr. Danforth points out that this action, whatever it may be, is recent. Glass is ancient, but not window glass; and the general use of glass sheets in the windows of ordinary dwellings is a thing of comparatively recent times—probably a couple of centuries. We must realize the benefits and injuries of glazed windows if we are to retain the good while mitigating the evil, as this writer advises us. His article is directed to this end. He says in substance:

"That window glass is a factor of prime importance in the evolution of man has not been sufficiently elucidated. Not that glass has had much to do with shaping his body and brain of to-day—it has not had time to do that—but that the greater part of his activities, and that the bodies and brains of generations to come are and will be greatly influenced by window glass, and that in it are serious dangers as well as boons. The thought is astonishing, yet simple of proof, and clear as the light which comes through the windows in question.

"Before window glass became a common possession of the people there came into homes and shops the air and the temperature of outdoors through the openings which admitted the light of day. The air was beneficial, but the temperature it brought with it not always so. When the outdoor temperature was not too low and the outdoor air not in too great activity, life and industries within could go merrily and well, but let either the air or its temperature be unfavorable, and at once discomfort and a cessation of certain activities ensued.

"Think of the demoralizing effect of such uncertainty upon industry. Modern inventions could not have come in such marvelous profusion before the day of this one invention of a simple device admitting daylight and excluding to a great extent the outer temperature.

DETAIL OF LOWER FACADE: BANK OF HAMILTON BUILDING, WINNIPEG.

"Even to-day if window glass should become one of the 'lost arts,' a large number of other inventions would at once cease to be useful or be forgotten through neglect, even despite the fact that artificial illumination has made remarkable strides.

"But someone may object: was not glass manufactured and distributed by the ancient Phœnicians? Yes, and probably before these by the Egyptians. How then can we attribute our very recent and radical changes to window glass? It is indeed surprising to think how new is the general use of glass in windows when the substance had been known so long and used for vases and gems and, now and then, in some sort of window. The common people, however, had no such luxury in their homes and shops. Recent explosions in New Jersey, breaking windows in many hundreds of homes and other buildings, brought home to some for a few days our real dependence upon window glass today."

Window glass in Roman times was cast, Dr. Danforth tells. The are o fcasting glass seems to have been forgotten until 1688. Yet window glass was even then the prize of kings and nobility, and these had only a scant supply. In the time of Elizabeth glass windows were so rare and costly that some noble when he left his city residence had the glass windows carefully removed. In the time of Charles II, glass was not used in all of the rooms of the king's palace. He goes on:

"It seems safe to assume that while many individuals may have had scant supplies of window glass by the middle of the seventeenth century or earlier, the commodity could hardly have been common before the eighteenth century, hence its effect upon human customs, industries and mode of life could not have begun to operate appreciably before that time. The great change in home life and the change in industrial life and in the industries themselves could not begin until an abundance of cheap glass filled all homes with a flood of daylight, and all shops and offices and factories as well, keeping in the artificial heat at the same time. From that time the outdoor life lost its people while the world of indoors gained devotees, willing or unwillingly, by thousands of thousands. A host of new industries sprang into being in the wake of window glass, and these begat other industries, scientific inventions and discoveries with magic rapidity. Large factories were made possible, big business began and the physical conditions of home life were completely changed. The air which all breathed, in home and shop and office, became at once far less pure, its oxygen was consumed and it became flecked with fine dust, and the pristine rigors of a temperate climate, with all that they had meant for the rigor of the northern peoples, were commuted to conditions of tropical evenness of temperature with what debilitation such brings and without the constant renewal of air which might be had in the tropics. Although this change came but yesterday, already a marked increase in physical debility in our most 'civilized' populations is a matter of common comment and concern.

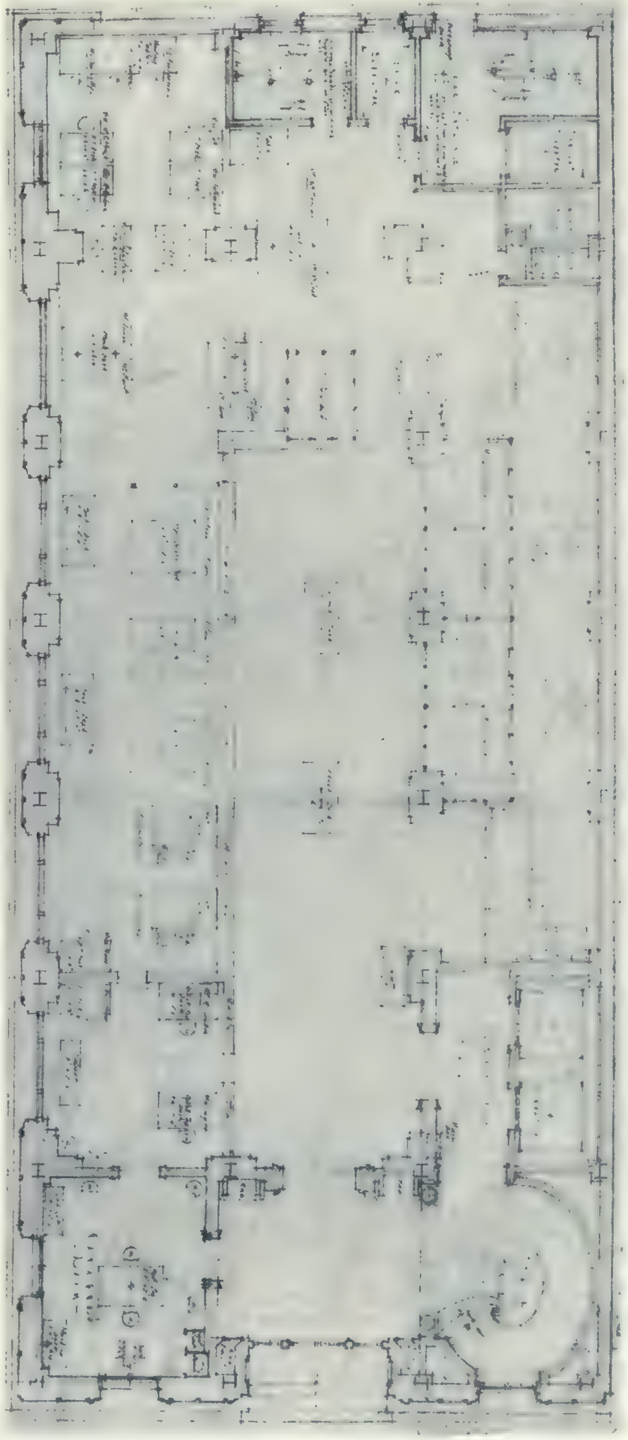
"With window glass the habits of life and livelihood are completely changed, habits of thought are revolutionized and the field and scope of thought changed. The whole environment is changed for the species, including temperature, humidity, material environment, composition of air breathed, visual and mental horizons, and a change in the relative adjustments of human beings to disease germs. Such radical changes both within and without the human organism are bound to produce physiological changes in the individuals. They also set in motion new factors in the evolution of the race.

"With window glass man leaves his outdoor or semi-outdoor activity and becomes a modern industrial worker or office server. With a sturdy foundation of outdoor health behind him he may not notice ill effects of degenerating muscles or dust-clogged respiratory tracts, and he may pass on to his offspring for two or three generations a vigorous heredity. The heritage of the ages is not lost over night, yet already we note inroads into the health and vigor of the people. Industries indeed evolved prodigiously, but 'advance in civilization' is not necessarily human evolution.

"How then is window glass a prime factor in human evolution. First, it changes man's environment and changes his field of thought. Second, it alters the temperature and humidity of his environment. Third, it gives him air of a different quality and composition to breathe. Fourth, it compels him to inhale fine dust constantly. Fifth, it removes outdoor activity from all women and most men in 'up-to-date' communities. Sixth, the germ content of the air in confined buildings is greater than normal, especially so in times when colds and other infectious diseases abound. The more frequent illnesses result in impaired health and reduced vigor. The inferior air also reduces vitality. The inhaled dust clogs minute bronchioles and alveoli of the lungs, causing thousands of cells to toil constantly to ingest foreign and insoluble particles. The muscular degeneration consequent to the changed manner of life will make its permanent change in the race of to-morrow; so will the reduced vitality resulting from the causes just mentioned. Great care should be given to the subject of window glass, that we may see to it that we reap the blessings it brings with it and avoid the bane."

Color in Modern Roofing

Color used in an architectural way has not met with wide approval by Americans, simply because it has been so seldom used artistically, states a writer in a recent *Touchstone*. Some architects advancing with the courage of explorers into this field of introducing color in domestic architecture have used shutters of



GROUND FLOOR PLAN: BANK OF HAMILTON BUILDING, WINNIPEG bright colors, chimney pots equally gay, and painted the tubs in which grew decorative trees, and has even given the roof mottled tints of autumn. Bright colors on the roof give a house a sense of cheer when rightly applied.

Moss-green tile roofing on a large new house takes away from the glaring brightness and draws the house into harmony with the trees and garden. A dull red Spanish tile is the only proper roofing solution for the Spanish and Moorish type of house. It is out of place on a small English cottage. Manufacturers have become aware of the growing liking for color and have placed on the market a number of roof coverings, such as tile, asbestos, wood and composition shingles in many varieties of colors. These can be ordered in groups; for instance, there are various shades of brown or of green which were stained or fired with the direct purpose of associating them. A roof all in one tone is heavy and monotonous. It lacks life and looks woefully new. Therefore many roofs of shingles nowadays are laid in different tones. If the roof is to be green in effect, three kinds of shingles are dipped in a green preservative shade, and each wood takes the stain differently, so that the roof at once shows the modulated softness generally found only in the old roof. Tile, whether flat (shingle shaped) or half round, comes in every shade of brown or red found in autumn foliage. They may also be had in all the tones of green found in spring and summer. Occasionally a blue or a yellow, or even a mauve tile is introduced when the roof is being made, just to give life.

Photo courtesy of Travers Sweatman.

VIEW OF DOORWAY FROM PUBLIC SPACE: BANK OF HAMILTON BUILDING, WINNIPEG.

Colored tiles set above the doorway, beneath the eaves as medallions, above or beneath windows, in the vestibule floor, in terraces, are exceedingly effective when the house is made of hollow tile, stucco or brick. In a house of wood, color is gained by staining the blinds, the roof beneath the eaves, or the ceiling of porch.

Standardized Stone Blocks

Of the three chief building materials, brick, timber and stone, the latter may be said to be the only one that has not been largely standardized. According to the "Building World" of London, however, stone construction at last seems to be going the way of the rest. As an instance it points to an English concern at Corsham Bath, which is making great efforts to standardize stone blocks, so that stone may take its place as an economical material for housing schemes. The company in question, after much deliberation, has decided on a standard size of stone, 2 ft. 3 in. long by 6¼ in. wide by 4½ in. thick. This size is convenient to handle, and may be carried or laid by one man, and the dimensions are suitable for bonding with any brickwork used in the construction. Special machinery has been laid to cut the blocks, and as they can be made largely from pieces of stone that would otherwise be wasted it is understood that they can be produced cheaply, and at prices to compete successfully with other materials. The artistic person, our contemporary declares, will raise a cry of lament as he sees the oldest and the last building material to resist standardization gobbled up by the remorseless machine age and turned into standard units as alike as postage stamps. And to this it adds that it is poor architecture which relies for its effect on the irregularity of the mortar joints.

University Course On Housing

To meet the demand for information and instruction on housing, the University of Cincinnatti, through its new Department of Industrial Medicine and Public Hygiene at the Medical College, in charge of Major Carey McCord, has worked out, in co-operation with the Cincinnatti Better Housing League, a university course of twenty lectures, covering every important phase of the subject from the growth and history of the housing problem to the Garden City Movement, the Construction of Low-cost Houses for Wage Earners, and Housing from the Real Estate Man's Point of View.

Experts will be called in from various parts of the country to lecture on the phases of the subject in which they are pre-eminent. Among the subjects they are to discuss are: Housing Legislation, Housing of Factories, Co-operative Housing, etc. Advantage will be taken of the fact that Cincinnatti has a number of business and professional men and city officials particularly qualified by experience and training to lecture on various topics to be included in the course. Among the topics these men will discuss are: City Planning and Housing, Low-priced Housing for Wage Earners, The Constitutional Aspect of Housing Legislation, The Real Estate Man and Housing, etc.

The course, as planned, including twenty lectures and assigned reading and field work, was inaugurated at the opening of the fall term in October.

To Tax Houses on Basis of Cubage

According to a recent press statement, Assessment Commissioner Stephen Grant, of London, Ontario, will introduce a system of taxation whereby residential property will hereafter be assessed by the cubic foot. It is understood that the assessment will vary from four cents to twenty-five cents per cubic foot, according to the character and structural classification. The assessor, it is said, will use a tape-line in work out his computations as to cubical contents, measuring the height, depth and breadth of the property from the cellar floor to the ceiling of the top storey rooms.

Photo courtesy of Travers Sweatman.

VESTIBULE, LOOKING TOWARDS DOOR TO MANAGER'S OFFICE, BANK OF HAMILTON BUILDING, WINNIPEG

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The Windsor (Ont.) Board of Education has completed plans for what it is said will be the largest and best equipped school in Canada. It will be a reinforced concrete and steel structure and cost approximately $400,000. A feature will be a "community centre," or ouditorium which will seat close on to a thousand.

The Architect and His Work

Inaugural Address by President John W. Simpson, of the Royal Institute of British Architects.

IN all the World's history, there has been never an epoch like that to which we are come. Four years of energy and skill have been devoted by the Nations to the work of mutual destruction; and now they see, revealed by the light of Peace, the precipice of ruin to which their struggles have brought them. Aghast at the imminent danger, they turn—still faint and bruised with fighting—to mend the neglected structure of their prosperity, to renew the arrested progress of their social welfare.

In these tremendous circumstances, I invite your attention to the functions of the Architect. Plan—born of the fertile union of Reflection, analysing the conditions of the problem, with Imagination, quick to perceive its true solution; Construction, daughter of Caution, testing the soundness of each audacious artifice. Such faculties, at once quickened and chastened by severe technical training, conduce—as I shall submit—to a type of intellect in the Designer of Buildings which is a National asset; an instrument to be employed to its very limit at this present time.

What is an Architect?

There can be no better definition than that given by the Dictionary of the Académie Francaise: "the Artist who composes buildings, determines their proportions, distributions, and decorations, directs their execution, and controls the expenditure upon them."

First then, foremost, and above all, he is an Artist. And by the term Artist, I understand no more a Painter, or a Draughtsman, than I do an Actor, or—for that matter, a Hairdresser—but that which all who honestly practise those professions would wish to be; delighting in their work for its own sake, yet discontented with it because of perpetual endeavour to reach a higher perfection. Not that fitful dilettante who justifies to himself his idle hours with empty phrases—"a lack of inspiration," or the like—but a man with a life's work before him, and the time desperately inadequate in which to do it. A man of remorseless severity in the standard of his own attainment, insomuch that he shall grudge no expenditure of time and pains to achieve the smallest improvement in his work. One in whose mouth the words "It will do," and "Near enough," are not found; nor will he tolerate them in the mouths of those who work with him.

With such a Temperament, Imagination, an eye trained to the appreciation of Form and Colour, and the rare Creative faculty, endowed with all attributes of the Artist—he is yet but an imperfect Architect. For to the Artist must be added the Technician, to make the Architect. Of what avail is his gift of Creation, if he have not Constructive Science that alone shall enable the offspring of his vision to reach maturity?

And, what a very mountain range of obstacles now appears between our eager Artist and the Promised Land of his desire. Not seldom, indeed, his heart fails at the steep ascent, and either he turns aside into by-paths which he conceives easier or more direct—or, he becomes fascinated with the very ruggedness of his toil, and remains contentedly constructing, with never a regret for what lies beyond his vision.

The Artist, then, must train his unaccustomed feet to tread firmly the slippery planes of geometry; for he is to be able, you must remember, to delineate Things, not merely as they exist, but as they are to be. Geometer and—that he may calculate—Mathematician, he must still surmount and master the rocky intricacies of the Trades. Mason and Bricklayer shall he become, and Carpenter to boot. The workers in Metal must yield to him the secrets of their Crafts, nor shall he rest till he has explored the whole mystery of Material;—Rocks, and Trees, and the Sand which is by the sea-shore.

Something of an Engineer he will find himself nowadays, being called upon to deal with Steel as a familiar friend; recognising its great possibilities, and—its limitations. He is but a poor designer who shall set aside materials as "inartistic"; rather should he recognise it as his duty, by masterful handling, to imbue them with beauty.

The study of Hygiene is within his province; for he must be nicely studious in arranging all Sanitary matters, and that not merely as to their general disposal. Judging no detail of pipe, trap, joint, or fitting unworthy of attention, he must narrowly supervise each with the Authority which is born of Knowledge. Upon Climate, Aspect, Rain-fall, Sub-soils, and all matters pertaining to the Public Health, he will be required to advise; and to plan aright the Defences against those insidious, persistent foes of humanity, Sickness and Disease.

Armed, then, with this panoply of attainments, and the vigorous constitution proper for their exercise, yet another gift is needed for his full equipment. The very weight of his intellectual armour may be his disadvantage and undoing, if it be not supported by that solid sense of proportion—those powers of inductive and deductive reasoning—which go to make what is commonly called "business ability."

And here we come upon our Architect in an aspect quite different from any in which we have hitherto viewed him. An aspect, too, which perhaps most of all differentiates him from his brethren who take the Arts for their trade.

For, consider his position who is entrusted with an important work of Architecture, and how his conditions vary from those of the Painter or the Sculptor. These last produce their work, agree to terms of its purchase, and there's an end to the transaction! A mere matter of interchange so far as finance is concerned.

But the Architect, from the moment the building Contract is signed, is invested with the discretion of an almost unfettered Trustee. Vast sums of money are at his disposition, and are disbursed by his direction. None can tell, till such time as the work is completed and the cost reckoned, whether or no he has wisely and honestly acquitted himself of his stewardship, and obtained full value for the moneys entrusted to him.

A Trustee, did I say? Nay, more; a very Judge. As the Employer lays down his gold, so the Builder bestows freely his work at the word of the Architect, neither doubting but that justice shall be done them. When I think of the unlimited trust and confidence which are placed in us day by day, year by year, by men of opposing interests, strangers moreover for the most part, who know us not at all in private life; when I think, too, that among both small and great, high and low, that trust and that confidence are justified—I profess I am proud of my calling. Mistakes are made, no doubt, "to err is human"; I have known cases of unpardonable oversight—but (I speak of those who rightly bear the title) who ever heard of a dishonest Architect?

To prolong the list would weary you. I could speak of the necessary knowledge of Accounts; of some familiarity with the Law, as it affects the drawing of Contracts, the rights of dominant and servient owners of Easements, the complexities of Building Acts and such like mysteries; of the need that he should be able to express his views with clarity and terseness, whether in writing or in speech; of the Architect as the "Polite Letter Writer," dealing daily with the correspondence of a Bishop.

You will say—I fear—that my sketch of the "Complete Architect" is but a fancy portrait, that so many accomplishments cannot crowd into the few years of a working life. My picture, it may be, is exactly true of none of us, as we are—I freely disclaim its likeness to the author—but it may stand for all of us—as we would be.

Be this of the Workman as it may be. What of the Work?

It will not have escaped you that, although the quality of Artist stands foremost in the making of an Architect, I have described in greater detail his faculties of Construction and Administration. It is with intention that I have chosen for my discourse these less familiar aspects of our art. To cultured minds, the æsthetics of Architecture are a perennial interest, and, since buildings make appeal to the sense of beauty, the emotions they inspire must form the measure for their criticism. Yet it is seldom realised how much of the greatness of the art of Architecture is due to the severely practical nature of its medium, to the necessity of expressing the artist's Ideal in terms of cubic Reality. When the enthusiast speaks of it as "frozen music," he is apt to forget that the freezing inspired, and is the very essence of, the music. For Architecture is, above all, Building; the calculated, right disposition of proportioned solids and voids—in other words, Plan and Construction; not the cornices, mouldings, and carvings which define the masses, add desired emphasis to light and shadow. To create it, no dexterous suggestive sketch suffices; no magic wand, nor lamp, nor potent incantation will raise it from the ground. Patient complex diagrams of geometrical projection, sown with myriad notes and figures, must show how bricks are placed in unseen foundations, and how joints of cunning fashion couple the roof-beams.

But, for all that I have dwelt upon the material, I would not be thought unmindful of the spiritual aspect of our calling. "Morality, in fact, is architectonic; and goodness, for human nature, is the queen over truth and beauty." I quote from Addington Symonds. "Experience leads me," he adds, "to think that there are numerous human beings in each nation who receive powerful and permanent tone from the impressions communicated to them by architecture." Very great, therefore, is the importance of a prevailing standard of good design, of logical, comely compliance with our domestic and commercial needs.

I am not now thinking of great monuments. Placed in the hands of competent designers, the Government Housing scheme may effect ethical results of more value to the nation than the satisfaction of its physical demands. The clerk and the artisan, on their way to the morning train, pass by rows of dwelling-places, ill-planned within, monotonously vulgar without. "One of these days," thinks our friend, "I will have a house of my own," and in his mind the house of his desire shapes itself, like to those he daily sees. What an Ideal! Yet how should it be otherwise? The only effective education of the public in architecture is the object lesson of good design.

All creative art must have a motive. Guadet, in his wonderful "Cours d'Architecture," reveals the basic influence which governs our art, in an illuminating phrase. "The great Architect of a period," says he, "is its social condition; the technician realises, but does not create, the aspirations of his time." Yet, while it remains true that architecture reflects, and writes in stone, the history of its time, the legend is no mere transcript, but a conception whereby the fertilising suggestion is transmuted vitalised, and perfected. Versailles owed its existence to the autocratic splendour of Louis XIV., but the minds that created it were those of Mansard, of Le Notre, and Le Brun.

The pageant of Versailles has passed into the Shades; there breathes no wind of life among the phantoms of that splendid Court; alone, the artists' work remains, immortal. To us—as it did to them—inspiration must come from the living world, from them that are nigh to us, from the resistless, limitless future. For good or ill, the old Order is well-nigh gone; the short retrospect of our own lives tells of a mighty social change, and in the fruition of the new State, Architecture must fulfil its glorious part. "Did you, O friend," said Whitman, "suppose Democracy was only for elections, for politics, or for a party name?" and, "To the men and women of a country, its æsthetics furnish materials and suggestions of personality, and enforce them in a thousand effective ways."

Admitting—as we must—the value of Art to Democracy, its intimate connection with the moral welfare of a people, we cannot but applaud the attitude of H.M. Government with regard to the national Housing Scheme. Despite political reasons for erecting houses with headlong hurry, despite attack by those without knowledge of the prodigious work involved in the preparation of even a moderate-sized scheme (and many are on a scale never before conceived in this or any other country), the Department charged with its administration has steadfastly insisted on standards of sound design and construction. Both the Prime Miniser and Dr. Addison have made clear their determination that the land shall not be covered with the abominations of the old-time speculator. Their reward shall be an England of finer instincts, richer for a noble pleasure. Architects—to the surprise of many—are now officially recognised as those most properly fitted to design houses, to plan the lay-out and extension of our cities and towns. We are grateful for that recognition; I do not hesitate to say we are giving of our very best in return.

To those impatient for results, let me say that Economy in building is effected, not by the omission of ornamental details—and, indeed, it is but a poor design which needs them—but, by minute study of the Plan, and Construction, upon whose importance I have already insisted. "Plan" means far more than the arrangement of rooms; it comprises the scrutiny of every foot of ground, its contours and subsoil, whereby foundation work is saved; it covers the economical disposition and grading of roads, the aspect of each house-site, the water-supply, lighting, drainage, and—in many cases—reasoned investigation of the general and local social problems incident to the formation of a township. "Construction," too, may be but a small thing, in—for example—a cottage roof; but to perfect it, so that wood, slate, lead, and labour may be reduced in each of several hundred cottages, will perhaps need days of work and experiment. And the time lost in preliminary study is regained many fold in the end. To produce in bulk such comparatively simple things as shells needed months of preparation, but, when organisation was complete, they poured forth like water from a pierced dam. So, houses, far more complex constructions than shells, will presently arise as by enchantment; the process has already begun.

Like Religion, Architecture, if it is to profit a nation, must be part of its daily life. It is in Plan that lies the true economy—prevention of waste. Waste of time and energy, wandering about the tortuous passages of tube stations, where lifts are planned remote from trains, and fatuous stairs intervene between them and the platforms. Waste of property, in the squalid hinder-parts of mainline stations, untidy sprawling areas dotted with lamentable sheds, and linked by bridges whose building has darkened and desolated streets of houses; waste which defiles and depresses whole communities. I mention "backs," because Architecture is matter not only, as is sometimes thought, for fronts, but equally for backs and sides; for all, in short, that connotes orderly, cleanly life, and the beauty of efficiency.

My predecessor in this Chair has addressed you in time of War; to me, more fortunate, it is given to take up his arduous duties freed from the obsession of those dreadful days. In opening our first Session since the Declaration of Peace, I welcome and congratulate those members who have served their Country and returned in safety. If I do not at this moment dwell upon our losses, it is not that we are unmindful; we do not forget the gallant comrades who once sat with us. The Royal Institute has had its full share of bitterness.

War, like Architecture, is an Art, and is practised "according to plan." Its principles demand the same insistence on a leading motive,

(*Continued on page* 396.)

The Surroundings of a Canadian House

An Address delivered by Mrs. H. Dunnington-Grubb before the R.A.I.C. and O.A.A. Convention.

I HAVE chosen as my subject this evening, "The surroundings of a Canadian house," and the chief point which we will have under consideration will be, can we have a Canadian or national style of gardening?

I think that, although my time is short, I will just take a few minutes to quote from that memorable essay of Bacon's, on gardens:

"God Almighty first planted a garden, and indeed it is the purest of human pleasures, it is the greatest refreshment to the spirits of men, without which buildings and palaces are but gross handiworks, and a man shall ever see that when ages grow to civility and elegancy, men come to build stately sooner than to garden finely, as if gardening were the greater perfection."

The late John Sedding, an English architect much beloved—perhaps more artist than architect—said in referring to those lines that, "The praise of gardening can no further go. To say more were impossible; to say less were to belittle your subject."

Now, as you all know, there are two different styles of gardening. There is the architectural or formal style, and there is the landscape or natural style. And between these two widely divergent types we have innumerable shades and gradations combining in varying degree the principles of both.

What is the purpose of a garden? Is a garden to be considered in relation to the house as an integral part of the design which depends for its success upon the combined effect of the house and garden? Or is the house to be ignored and the garden treated as a separate unit?

The formal treatment is the extension of the principles which govern the design of a house to the grounds which immediately surround it. I say "immediately" advisedly.

Now although I am a strong advocate of the formal style of gardening, I believe that the garden should conform to the lines of the house; the garden is after all a setting for the building and many an excellent building has been marred by an unsympathetic setting. At the same time I hope before the end of my address to convince you that the oft-despised landscape school of gardening has given us very much which is beautiful both in our public and private gardens. We owe almost entirely to the landscape school our present public parks. We also owe very much that is beautiful in our private gardens.

I think it will help us to understand these two styles if I take you back a few centuries and view historically the different agencies which have helped to make the gardens of to-day.

Gardens have ever been associated with buildings, and since we find that ancient Egypt produced the prototype of modern western architecture, we instinctively turn to the East to find the birthplace of gardening. We read that religious buildings preceded secular buildings in ancient Egypt. That is to say, the first buildings of any architectural pretensions were the tombs and temples. Now it was around these temples of ancient Egypt that we find the first gardens of which we have any definite record. Their purpose seems to have been chiefly utilitarian. They were strictly formal, rectangular, conforming to the lines of the very severe and simple buildings which they surrounded. Their purpose might have been two-fold. They were enclosed for the most part by hedges of Cypress. It may have been that these hedges and enclosures were to keep at bay the ever-advancing sands of the desert. Inside these barriers were small, absolutely formal gardens. Green turf, tanks of water, trees, arbors and trellises. The entrances to these temples were marked by sphinxes. Now the gardens, apart from any other purpose, were for the growing of plants to be used in religious ceremonies; therefore one may consider that some simple religious inspiration was at the back of these very early gardens.

As time passed and architecture advanced and there were, in addition to the temples, secular buildings of increasing grandeur, then we have gardens of pleasure in Egypt, more elaborate but still formal and conforming to the buildings they surrounded.

From Egypt the art of gardening spread next to Greece. There again the gardens were chiefly utilitarian. For the most part they were divided between the growing of vegetables and fruits for the purpose of food, and the other portion was very simple; it was formal in its outlay and used chiefly by the philosophers as open-air class rooms and lecture rooms for their students. It was in these gardens that the philosophers trained their students.

There is just one little point I might take time to mention. One feature of early Grecian gardens was the Hermes, the figure of the god of the fields on a tapering pedestal. As we know it now it is in stone. The original ones were carved in wood and were in reality a glorified surveyor's pole or stake, for these Hermes were set at the corners of the fields to mark the extent, and that was the origin of the tapering pedestal, made in that shape so that they might be more readily driven into the ground.

From Greece gardening spread to Rome and there it reached such a stage of extravagance that it was confined to the wealthy. The Roman gardens were, I suppose, the most extravagant that the world ever had or will have. A voluptuous, sensuous style. However, they are so well known, either by description or picture to you and I will not stop to describe them.

From Rome gardening spread westward and entered Britain at the time of the Roman invasion. Of these early gardens we now have no record whatsoever, but since we know that the Romans built villas in England of a similar design to those built in Italy, although probably less pretentious, we may reasonably suppose that gardens also surounded these villas of a similar nature to those in Rome itself.

During the subsequent invasions by the barbarians these villas and gardens were all swept away and for a considerable period gardening was almost dead in England. It was only kept alive by the various religious orders. A certain amount of gardening went on in the monasteries and convents, but it was on a very limited scale and the plants grown in them were either for food or for the purpose of decorating the churches. The people of those days lived in castles or walled towns and there was no room within the walls for gardening and it was not safe to do it outside.

As time passed and peace came again to the country we have the beginning of the gardening that we know in England; the old-fashioned manor house garden. We have the manor house type of architecture with its strictly formal garden surrounding it. Now it was the custom in those days for the man who designed the house to design the garden, and it was very successful for that time, because in those days horticulture was in a very elementary condition and the materials to be used in the garden were very limited. Therefore it was not necessary to know very much about it. These gardens were quiet and restful and full of old-world charm. This period I may say is the sixteenth century. We have practically no records of gardens in England earlier than the sixteenth century. As time passed, in the seventeenth century, a change came over the public mind. Plants new and rare were imported from the continent. Architecture was advancing. New ideas had been brought in on gardening from other countries, particularly France, Holland and Italy, and the public demanded something better than it had had before.

It was just about this time, the middle of the seventeenth century, that a very famous school of garden design came into existence. It was a French school, headed by the most famous garden designer that I suppose we have ever had—LeNotre—who was gardener for Louis XIV. It is interesting to remember that LeNotre began life as an architect but gave up that profession to become a garden designer, and before the French King met him he laid out a great number of very beautiful French chateau gardens. He also went as far as Italy and designed some of the Italian villa gardens, and it was due to some of his excellent work that Louis XIV engaged him to construct the famous garden at Versailles. I do not know how the cost of these gardens compares with those of Rome, but they cost more than anything we have had since the seventeenth century. It was then that gardening reached its zenith.

LeNotre acquired a knowledge of the application of living materials to design. The lack of that knowledge is the reason why it is difficult in these days, when horticultural materials are so abundant, for an architect to undertake the whole work of design himself. Although his academic knowledge of design may be perfect, I think it will be admitted that an architect capable of producing a perfect design for a building, would not be looked upon as entirely efficient if he had no knowledge of the materials of which the building was to be constructed. It is necessary also to have a considerable knowledge of the materials of which a garden is constructed in order to make a successful garden.

There is no reason why that knowledge should be denied the architect, but when I have approached architects on that subject they have said that their training already included about half a dozen professions and they had not time to devote years of study to the knowledge of plants.

I may say here that although a knowledge of plants is necessary in order to design a garden, a knowledge of architecture is also necessary and that is why Le Notre became the most famous garden designer we have ever had. It was because of the architectural training that he had in his youth. It is doubtful whether Le Notre ever came to England. There are some who believe that he went to America, but I do not think he did. However that may be, he trained a great many students, and his students went pretty well all over Europe and laid out gardens in Germany and in England.

Charles II was a very great admirer of the French Court, and wished to imitate it as closely as he could. I do not know whether his wish was humbler, but his achievement in gardening certainly was. He wished to follow the French style of gardening as nearly as possible, and sent his gardener, a very famous man by the name of Rose, to study under Le Notre, and on his return he laid out St. James Park and other large pieces of work in England, including the front portion of Hampton Court Palace, that part which comprises the large semi-circle and the avenues. That was in the grandiose style of that period.

As time passed a greater formality was introduced into the English garden. In the reign of William and Mary, the King brought over Dutch gardeners from Holland, and the style in England then became more and more formal until it reached a degree of childishness. The hedges were clipped, the evergreens were clipped into fantastic shapes and nothing was allowed to be natural. A reaction was bound to set in. It is commonly supposed that the architectural profession had nothing to do with this reaction. That is to say, there is a popular fallacy which even invades the architectural mind that this reaction was brought about by the uneducated gardeners, but the first man to suggest a more natural style of gardening was Sir William Chambers, who spent many years of his early life in China and was a great admirer of the Chinese style of gardening. On his return he wrote a book on the gardens of the East, and was appointed by George III to be the King's architect and superintendent of the Royal Gardens—a rather curious dual position. As Superintendent of Gardens he constructed Kew Gardens, which as you know are entirely in the informal natural style. His own particular impress is left there in the form of a Chinese pagoda with its appropriate setting. As far as architecture was concerned, I think he was responsible for Somerset House. So that it was actually an architect, and one of considerable eminence, who was the father of the change.

It was carried on by another famous man by the name of Kent, who began life as a coach painter, was taken under the patronage of a well-known architect and in due course became an architect himself. I think a great many must know the name of Kent, because it was said of him that he "Leaped the fence and saw all nature to be a garden." He swept away the old formal hedges, fences and walls, he levelled the terraces and brought the turf in great sweeping lawns up to the house walls. His work was carried still further and in a much more extreme form by a man named Brown. He was called "Capability" Brown, because whenever he was called in to give advice he always said the place had no capabilities. A great nobleman asked him to make a report on his place; he came and went, but did nothing, and after some little time he was asked why nothing had been heard from him. His reply was, "Oh, the place has no capabilities. I can do nothing with it."

The next school went to the other extreme from that of formalism; disregarding the building entirely and thought only of imitating nature. In fact, they carried it to a much more childish extreme than the formalist had done with his clipped yews and peacock evergreens and the like; for the new style of gardening very often included such things as ready-made imitations of nature, such as a dead tree set up in a park by way of making it look natural.

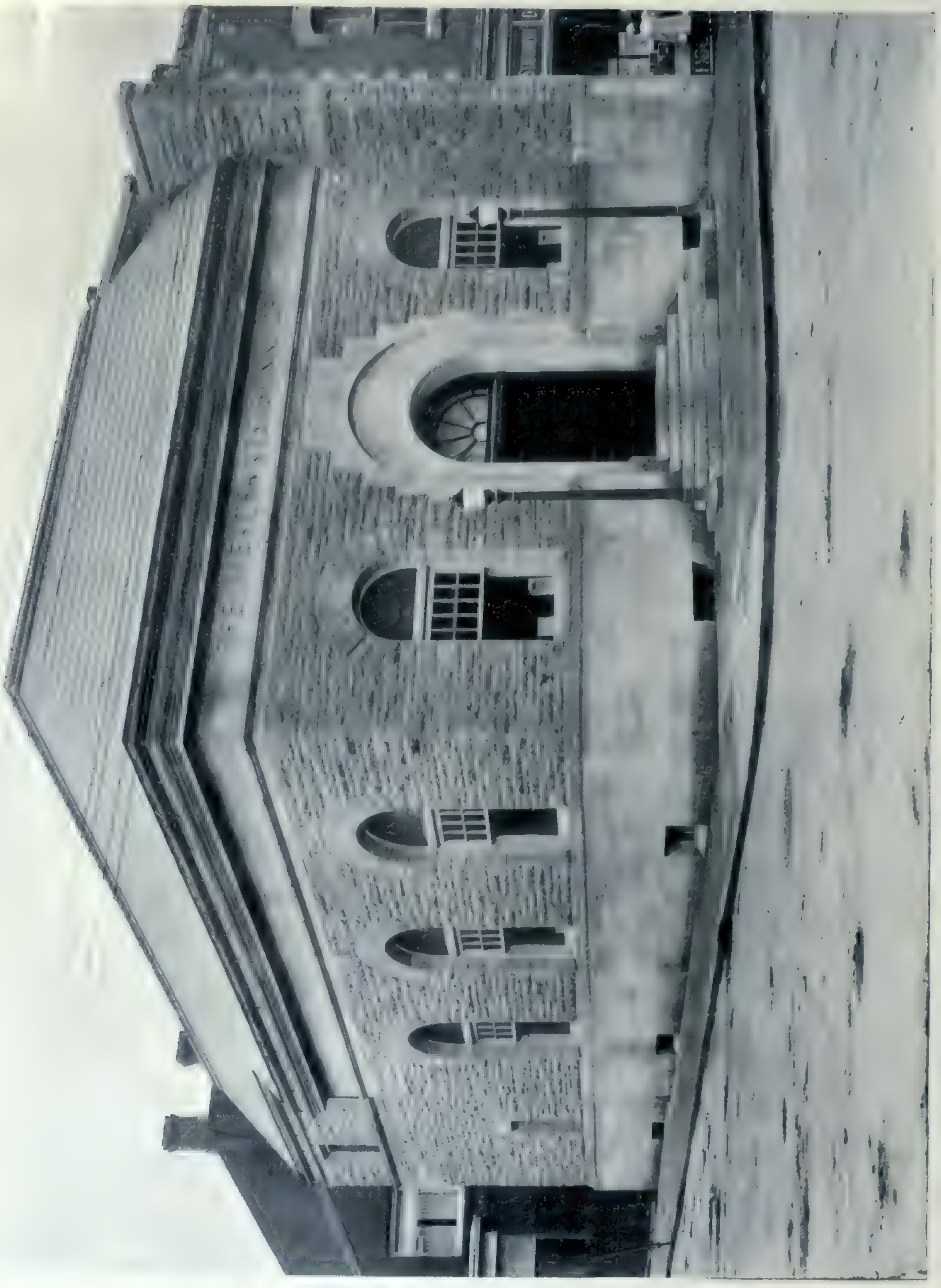
The next great name among gardeners is that of Humphrey Repton, who, unlike "Capability" Brown, was a man of considerable culture. Brown began as a kitchen gardener, quite ignorant, but rose to a great height in his profession and became a very rich man. Repton, as I say, a man of culture; he was much more moderate, much more restrained in his views than his predecessors of that particular school, but he was of the landscape school. There is not the slightest doubt that the landscape style of gardening which is in existence in the United States today, was the direct outcome of the influence of Humphrey Repton.

Now, in considering formal style, which is sometimes looked upon as the highest form of garden design, we must go back a few centuries—say the 17th, or early 18th century. In looking at any of the old chateaus we will find that not only the garden itself, that is to say, the garden immediately surrounding the house, was an extremely formal one, but what was known as the greater layout, or what we would now call the park, being a portion which was beyond the garden proper, was also formal. It appeared as long single or double avenues of trees, running for miles sometimes in straight lines, out into the country, and between them were open grazing areas for deer or cattle. They were very formal. Now the landscape school has given us the natural park that we have to-day; the trees arranged with such skill as to appear like the trees of wild or natural scenery.

Now, while I am sure that almost anyone will admit that the ground immediately surrounding the house should conform to the lines of the house, there is a limit beyond which we should not go with formality. Immediately we get away from the immediate vicinity of the house, we can allow ourselves a little more latitude and adopt a more natural style which will gradually bring the surrounding country into harmony with the garden proper and the house.

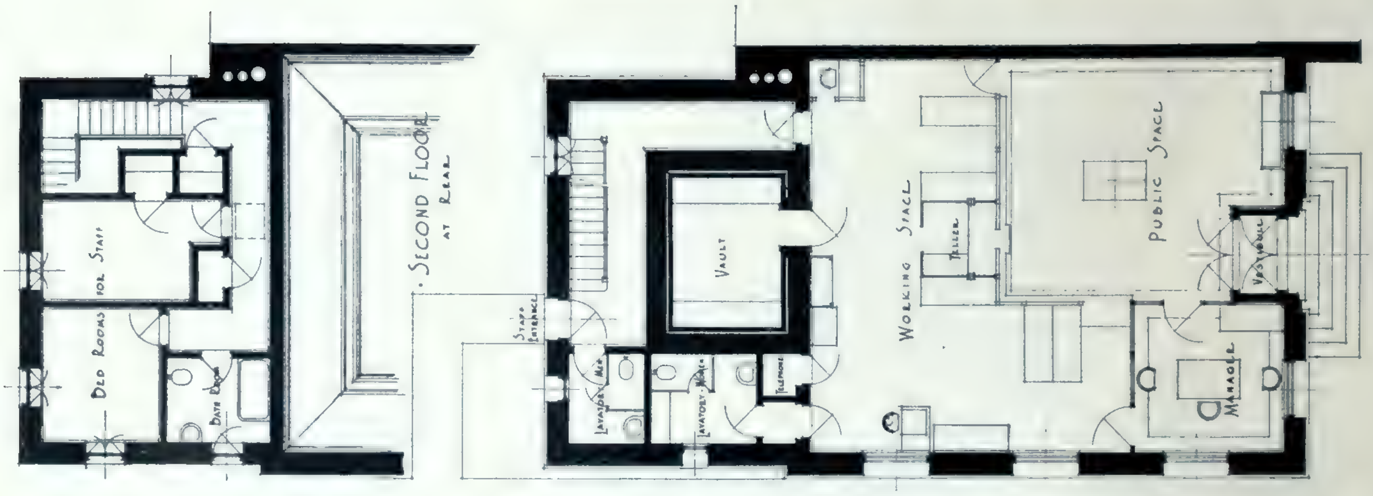
Sometimes people say to me, "Can we have a Canadian style of garden?" It is the same thing as saying, "Can we have a Canadian style of architecture?" Since gardening has always been historically associated with buildings, we see that the traditions of gardening go right back to the very earliest of times, almost to the prehistoric. Now, we cannot start a new Canadian style of architecture. It is not desirable that we should. We look around the walls of this Exhibition and we point to one design and say it is a very good example of the Georgian; we point to another and say it is a very excellent example of classical work, and the like. We are proud to think they are so good and we do not

(*Concluded on page 390.*)



BRANCH OF MERCHANTS BANK OF CANADA, GEORGETOWN, ONT.

SHEPARD & CALVIN, ARCHITECTS.



GROUND FLOOR PLAN.

New Branch Buildings for Merchants Bank

BANKING ROOM: MERCHANTS BANK, GEORGETOWN, ONT.

NIAGARA FALLS, ONT.

The Merchants' Bank decided early in 1918 when buying a site in Niagara Falls, Ont., for permanent quarters, to provide for considerably more accommodation than was immediately needed. Consequently a lot 50'x120', northeast corner Queen St. and Ontario Ave. was bought, but as shown by the plans, only about 27'x65' is being used as a bank office, for the present; the remainder of the ground floor being used temporarily as an L-shaped shop. The elevations as well as the interior work, are so designed as to allow of taking over all or part of the shop space into the Banking Room, when desired, with a minimum of disturbance. Upstairs are two staff bedrooms and a bathroom, the rest being laid out as offices for rental. In the basement is the usual mechanical equipment; heating is by low pressure steam.

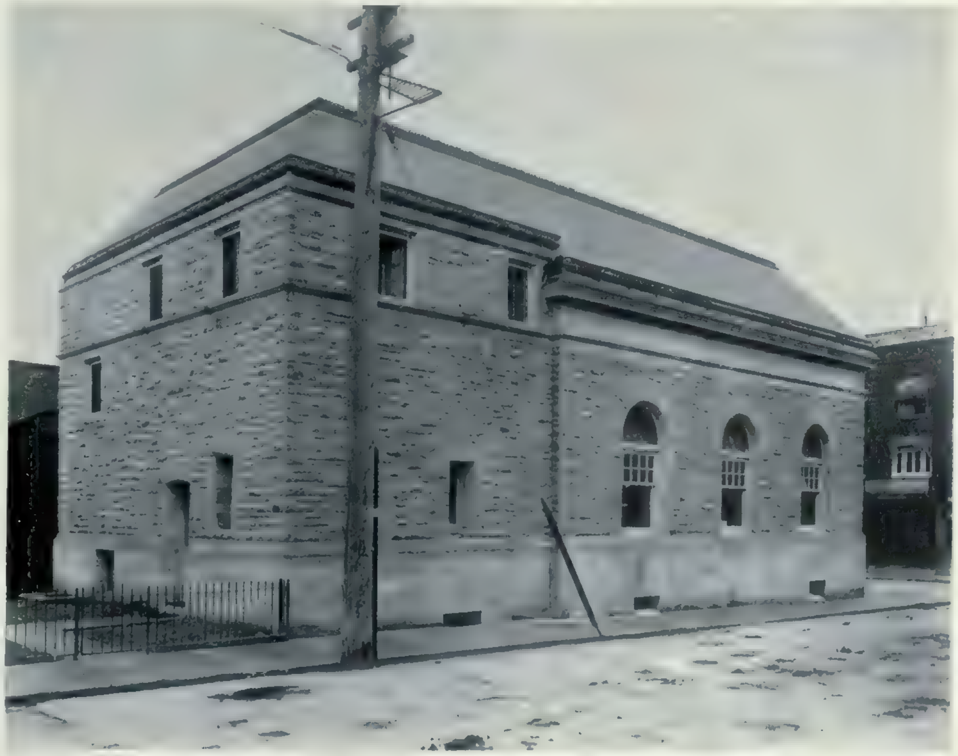
The exterior is of dark buff rough textured brick, upon a base of dressed Queenston limestone, the cut-stone work is buff Indiana limestone. Under the upper cornice are two courses of enamelled brick, green and brown, which give an effective touch of colour, especially at night.

The main floor is fireproof, long-span combination hollow tile and concrete. In the bank entrance vestibule the finished floor and base are pink Lepanto Marble; in the public space, terrazo with marble mosaic border and verde antique base. The working space is covered with linoleum. The Bank walls are stucco plaster, left untinted because of the warm colour effect resulting from the local reddish sand. The counters, fittings and furniture are mahogany. Provision is made for customers having safety deposit boxes in the Bank's vaults.

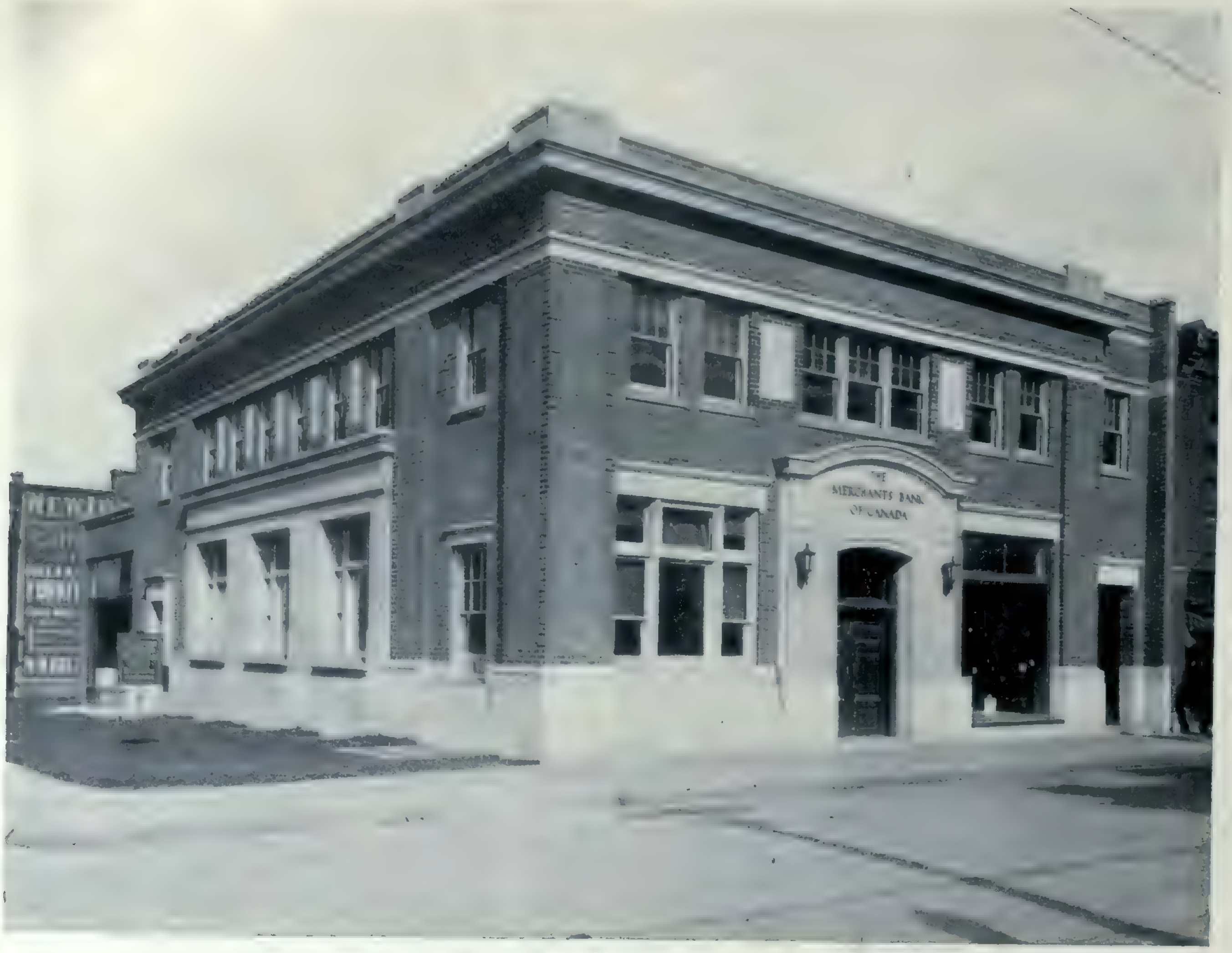
The upper floor is wood joist, maple floor, the trim is birch stained mahogany. The entrance to offices, from side street has terrazo floor, with pink Lepanto marble border and base. The building with equipment cost about 42 cents per cubic foot.

GEORGETOWN, ONT.

Georgetown being in a district noted for its limestone, it was felt that the new building for



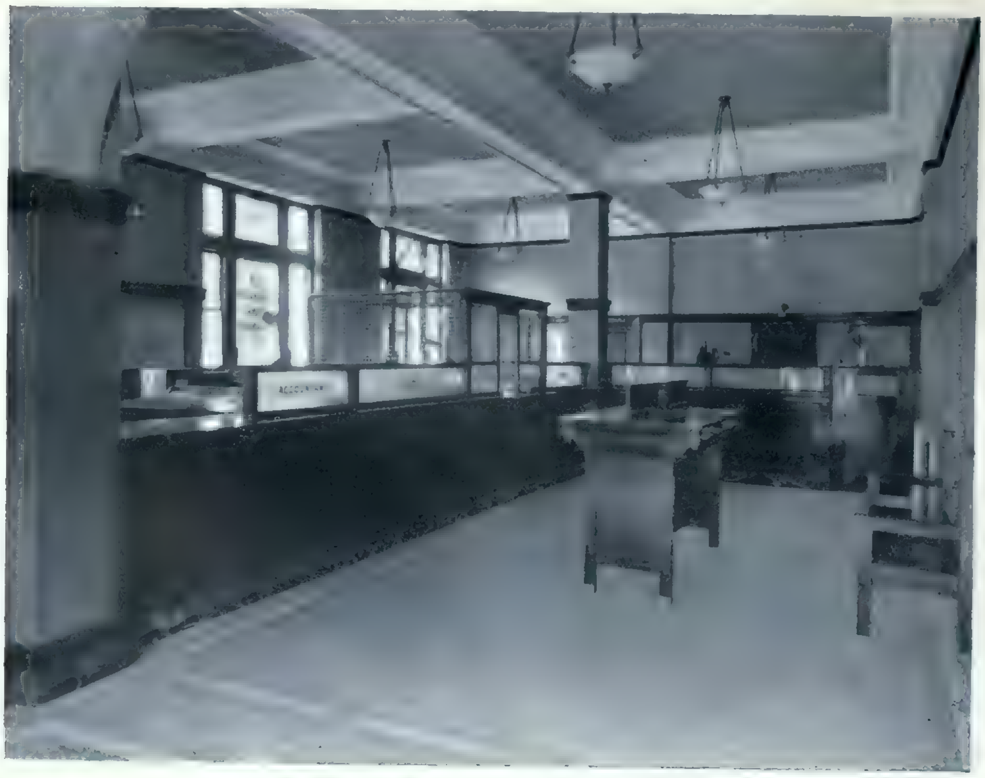
SIDE AND REAR ELEVATIONS: MERCHANTS BANK, GEORGETOWN, ONT.



BRANCH OF MERCHANTS BANK OF CANADA, NIAGARA FALLS, ONT.
SHEPARD & CALVIN, ARCHITECTS.

the Merchants' Bank should be of this local stone, especially because it was to be purely a banking house, without office space. The exterior shows a dressed stone base with coursed ashlar walls, of Georgetown stone, the cut stone work, however, being buff Indiana limestone. The sloping roof is covered with green slate, with copper cornice and cresting; the upper roof is flat, felt and gravel

The main floor is fireproof, combination long span hollow tile and concrete, the rest of the framing is wood. The whole of the front portion is used for a large banking room the ceiling height being 19 feet. The walls are stucco, tinted a warm grey The vestibule has marble floor and base, the public space of the bank has terrazzo floor, marble mosaic border, and verde antique marble base, the working



BANKING ROOM: MERCHANTS BANK, NIAGARA FALLS, ONT.

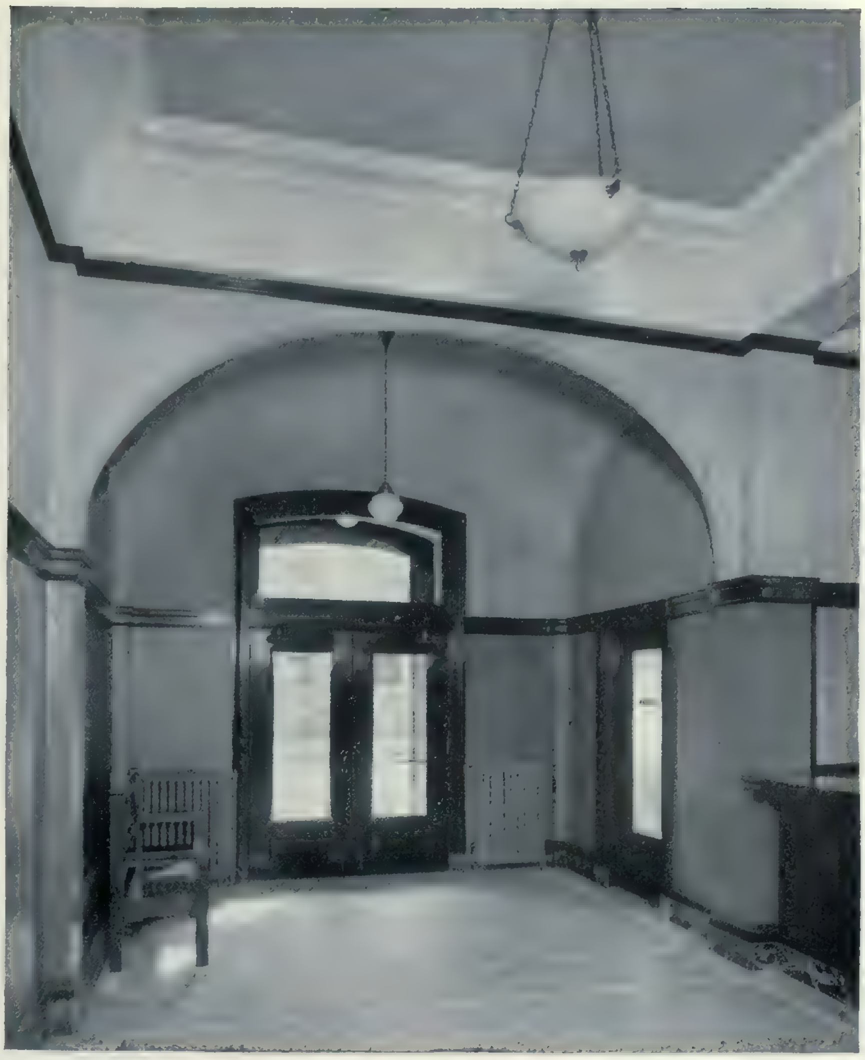
space green linoleum. The bank fittings and furniture are birch, stained dark mahogany. Provision is made for the convenience of safety deposit box customers.

At the rear in a mezzanine are two staff bedrooms and bathroom which were furnished complete under architects' direction. Water comes from the town's water system, but since there are no sewers, a septic tank was installed to treat sewerage before discharging into town drains.

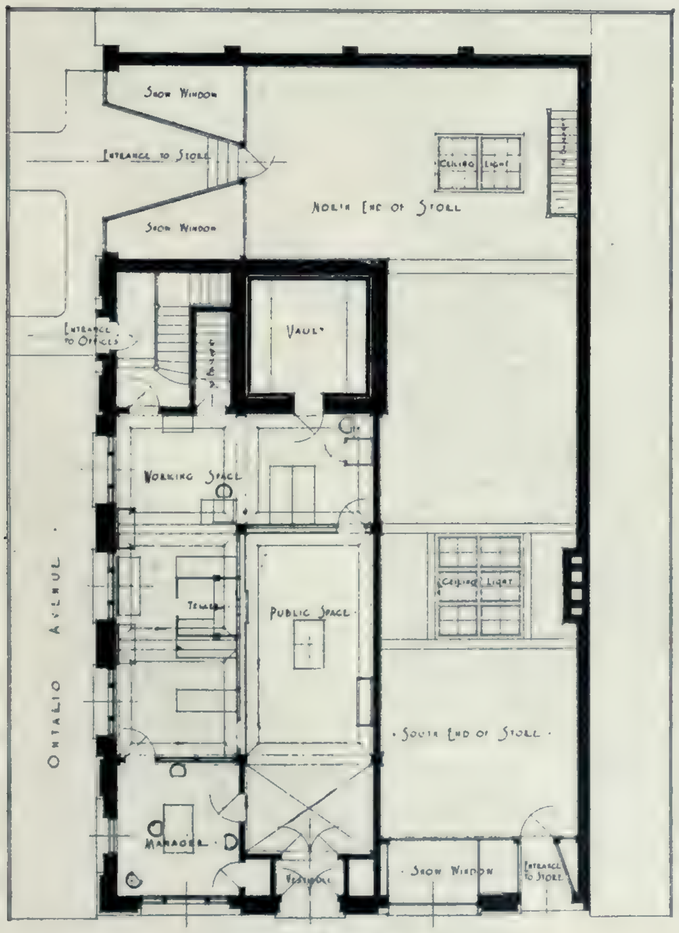
The building proper cost about 40 cents per cubic foot, and complete with equipment about 46 cents per cubic foot.

GALT, COLLINGWOOD AND PEMBROKE BRANCHES.

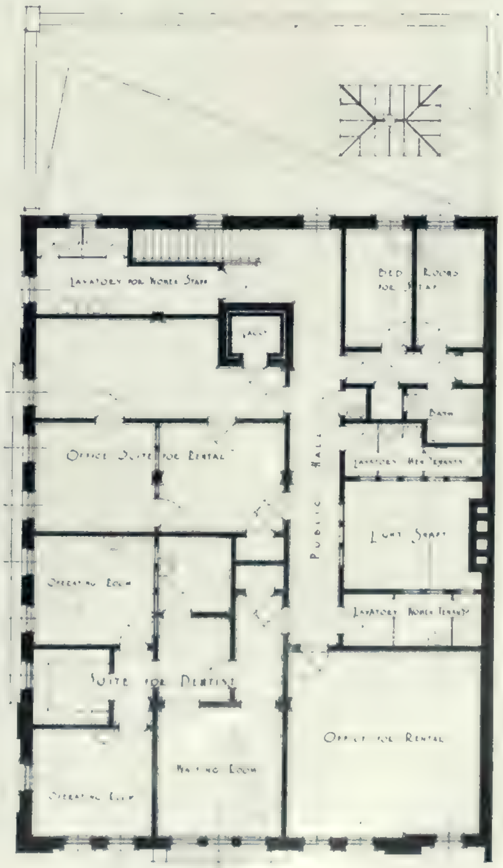
Three other branches for the Merchants Bank of Canada have also been recently built and occupied at Galt, Collingwood and Pembroke, Ontario. Although the character of these buildings and the sizes of the sites differ widely in the three towns, the chief idea followed in each case



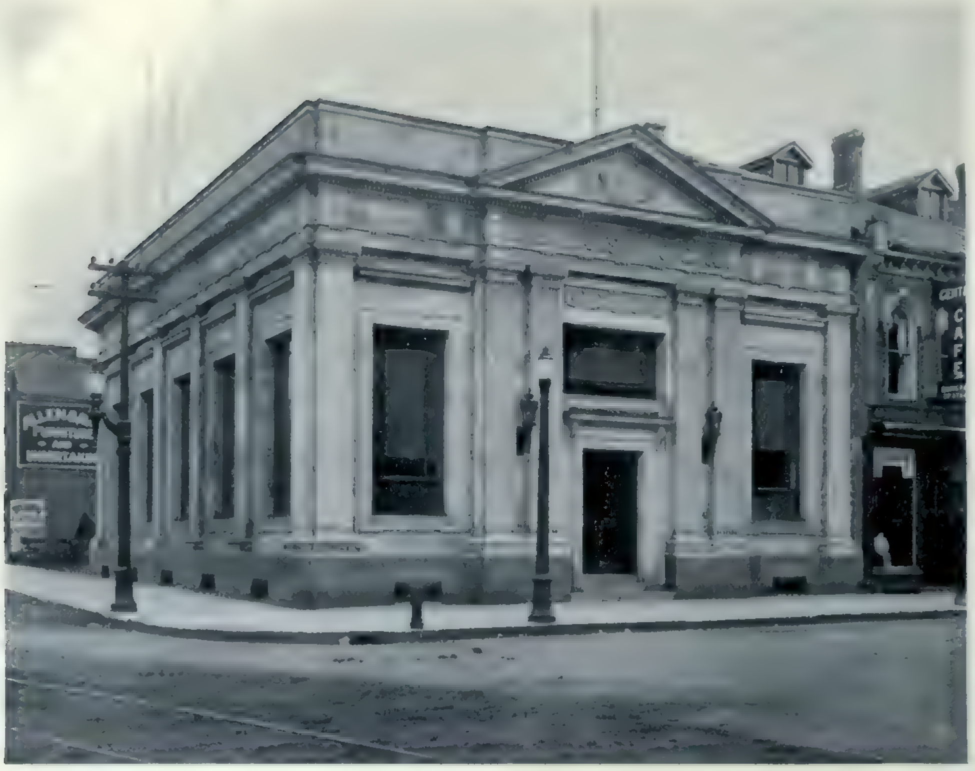
ENTRANCE TO BANKING ROOM: MERCHANTS BANK, NIAGARA FALLS, ONT.



GROUND FLOOR PLAN.



SECOND FLOOR PLAN.



BRANCH OF MERCHANTS BANK, GALT, ONT. HOGLE & DAVIS, ARCHITECTS.

was the same, viz., to make the banking rooms themselves as large as possible. For this reason the managers' rooms, formed of wooden screens, are part of the main banking room. The staffs' lavatories, etc., take up as little space as consistent with convenient arrangements.

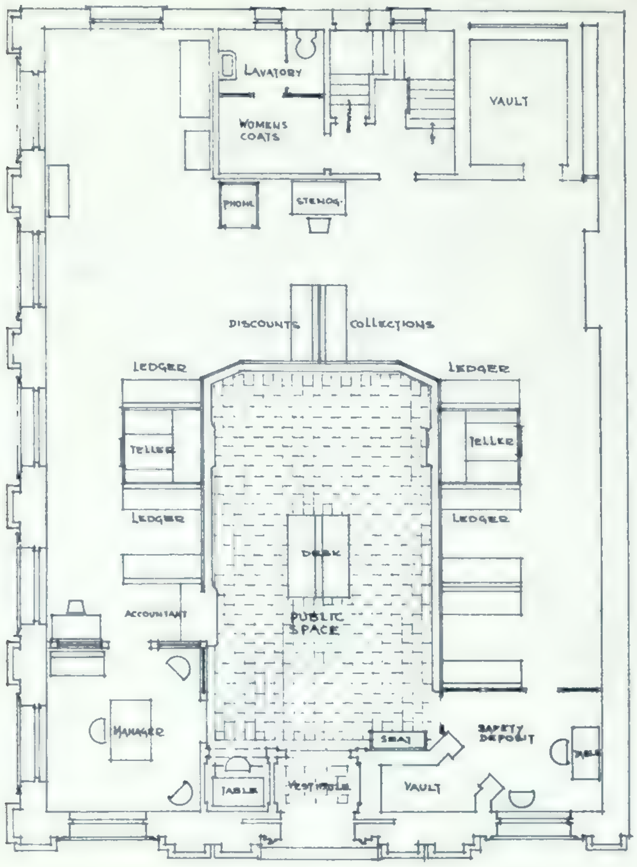
In Galt the buildings adjacent to the new Bank are low and a one storey building was erected.

In Collingwood the bank owns the adjacent building and by forming a low entrance to its upper floors was able to erect a one storey building, which would not be dwarfed by its surroundings. This arrangement allows of ample height in the banking room and gives an imposing interior.

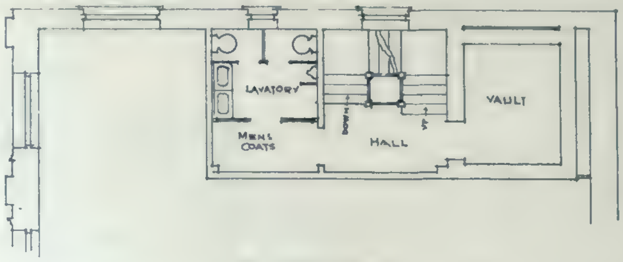
In Pembroke, owing both to the height of the adjacent buildings and to the fact that there was a particular demand for the office space on the first floor, a two storey building was erected.

The entrances in each case are placed in the centre of the main front with lanterns at each side to emphasize these entrances. This arrangement allows the well lighted portion of the banking room, next the windows, to be used by the staff.

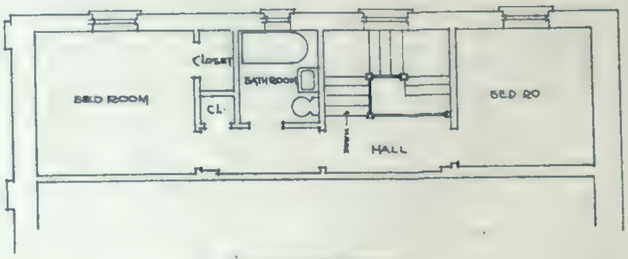
In the Galt building, the counter is arranged symmetrically on each side of the entrance. The manager's room occupies the corner of two streets and is balanced by the safety deposit vault and coupon department. The other vaults, stairs, lavatories, etc., are kept back to the rear. There is a mezzanine floor between the banking room floor and ceiling, with a small upper floor above the mezzanine. By this arrangement very little space is occupied on the banking room floor for service; the cash and book vaults and the men and women's coat rooms being on the ground and mezzanine floor, while on the top



GROUND FLOOR PLAN.

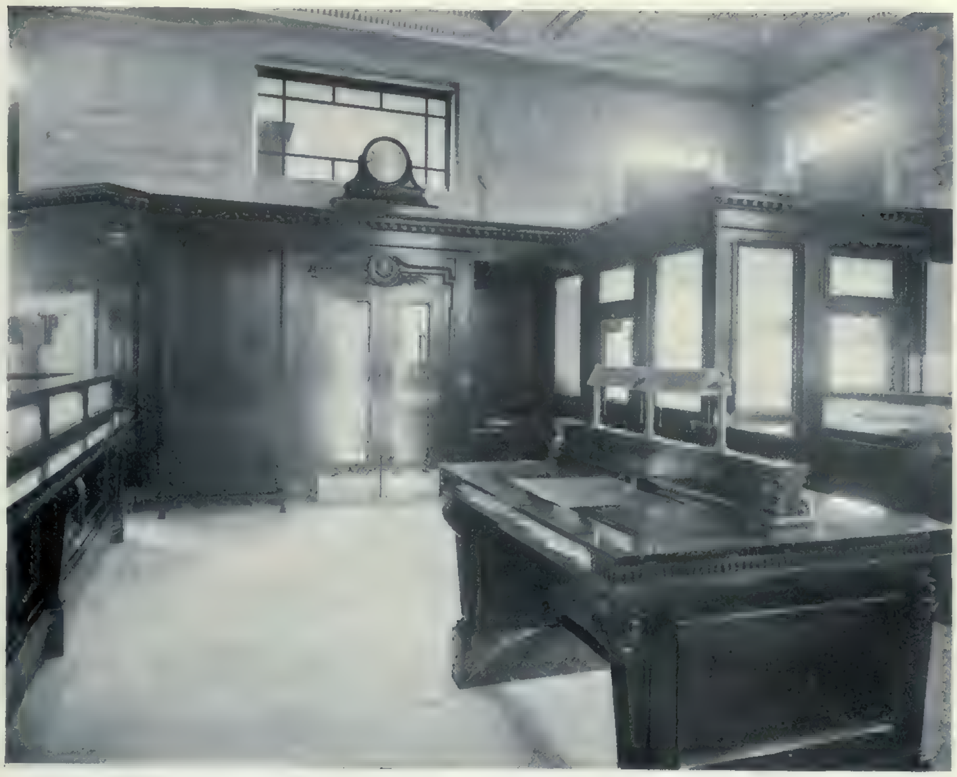


TOP FLOOR PLAN.



MEZZANINE PLAN.

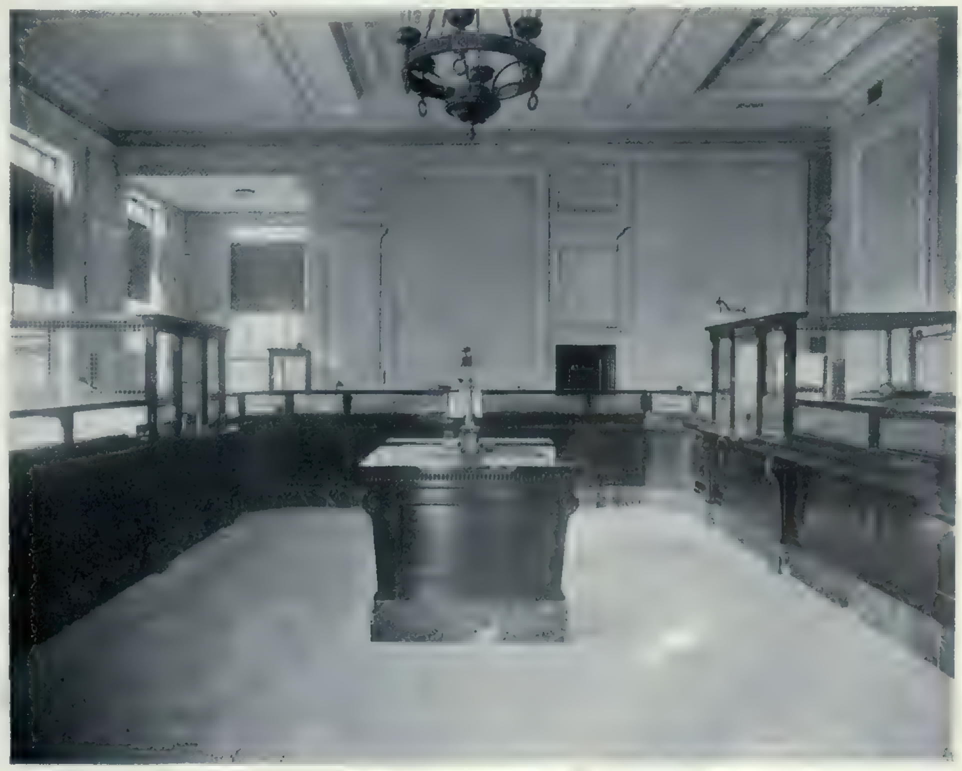
floor there are two rooms and a bathroom for members of the staff living in the Bank. The basement is not used except for the heating plant.



VIEW OF BANKING ROOM, TOWARD ENTRANCE: MERCHANTS BANK, GALT, ONT.

The exterior is in Indiana limestone above a polished granite base. The whole of the building is carried out in the late eighteenth century French style. A Doric order is used with a pediment over the front entrance and with architraves and small entablatures above the windows. The entrance doors are formed of iron grilles, sliding into recesses, with a pair of light swinging doors of mahogany and glass behind.

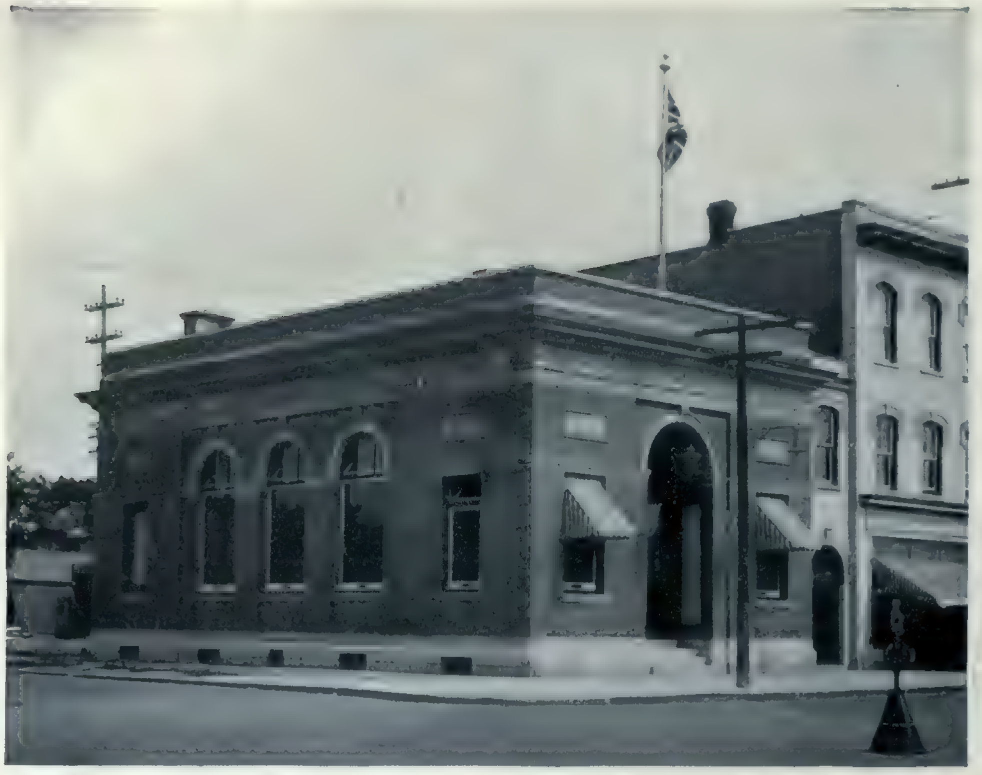
The interior has an enriched plaster ceiling and walls of caen stone arranged in panels with ornament at different points. The floor in the public space is of white Italian marble with a border of verde antique marble around the counter, screen and fittings. The floor of the clerks' portion of the banking room is laid with cork tile. The Manager's screen, vestibule, counter, etc., are of mahogany with enrichments around the panels and doors. The customers' desks are also of mahogany with heavy glass tops. The electric light fixtures are in dull gilt and carry out the French design.

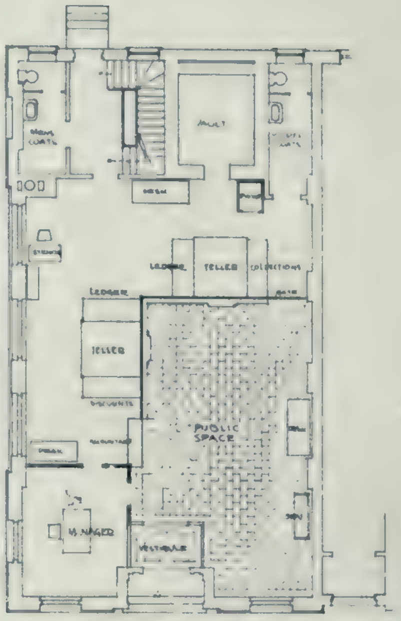


BANKING ROOM: MERCHANTS BANK, GALT, ONT.

The building at Collingwood is carried out very much on the same lines as the Bank's branch on Harvard Avenue, Montreal, recently built and illustrated in CONSTRUCTION April, 1917. The building is of buff brick with Indiana limestone frieze, cornice, belt courses, etc. The entrance doors are of mahogany with handsome iron grilles set in mahogany frame with large fanlight above. The floor of the banking room is of Tennessee marble and the Manager's screen, counter, etc., are of mahogany. The building has a large cash vault and the men's and women's coat rooms on the ground floor with two rooms and bathroom on the floor above for the staff. The book vault is in the basement. The ceiling of the banking room is in plaster and the walls of caen stone simply blocked out.

The branch at Pembroke is in red brick with Indiana limestone facing, frieze, etc. The facades show an Ionic order with attic cornice above above. The banking room has a white Italian marble floor with verde antique border, and mahogany counter, Manager's screen, etc. At the rear of the banking room is placed the entrance and stairs to the offices above, and a





GROUND FLOOR PLAN.

MERCHANTS BANK, COLLINGWOOD, ONT. HOGLE & DAVIS, ARCHITECTS.

small women's coat room opens off the banking room. The book vaults, men's lavatory and a large store room are placed in the basement, reached by a small stair from the banking room.

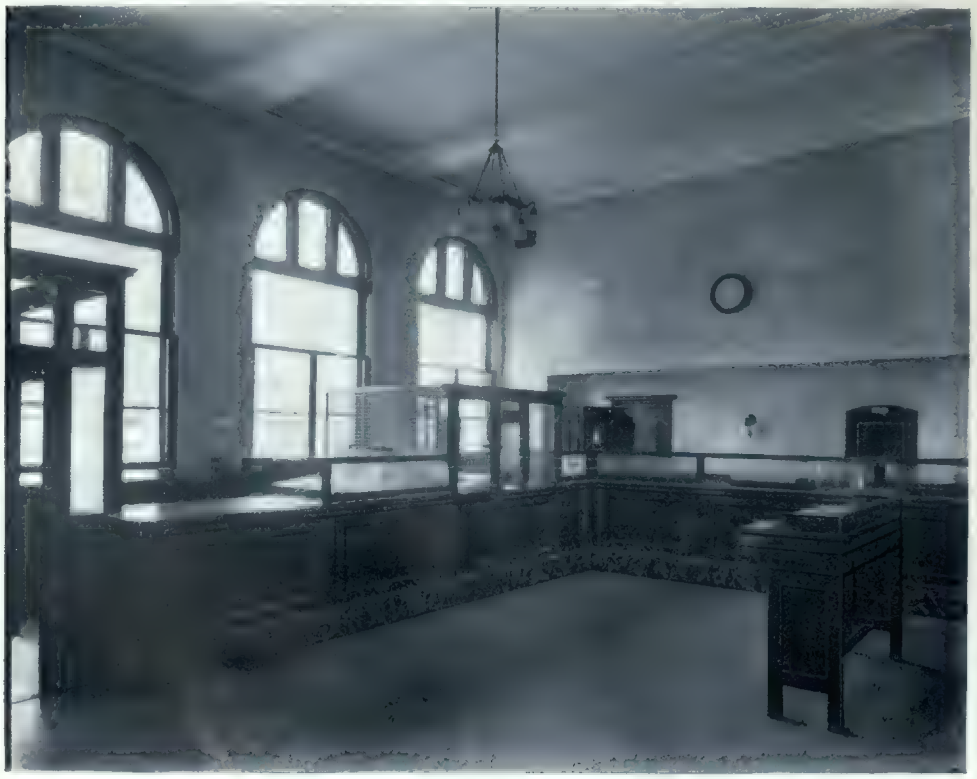
A hot water system of heating is used in the three buildings.

Surroundings of a Canadian House

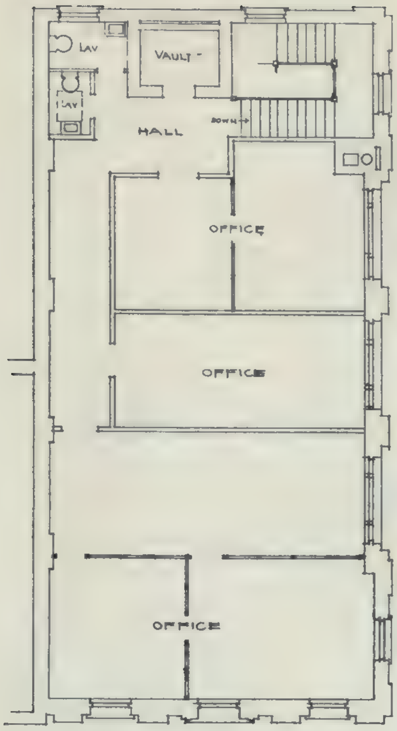
(*Continued from page 383.*)

want to say it is a Canadian style; we know the tradition that is behind it; we know the work that it represents, the study that has brought it to that perfection. We have modified to a slight extent our buildings and our gardens to suit the climatic conditions, but beyond that it is better that the traditional should be followed than to attempt in one generation anything that is new.

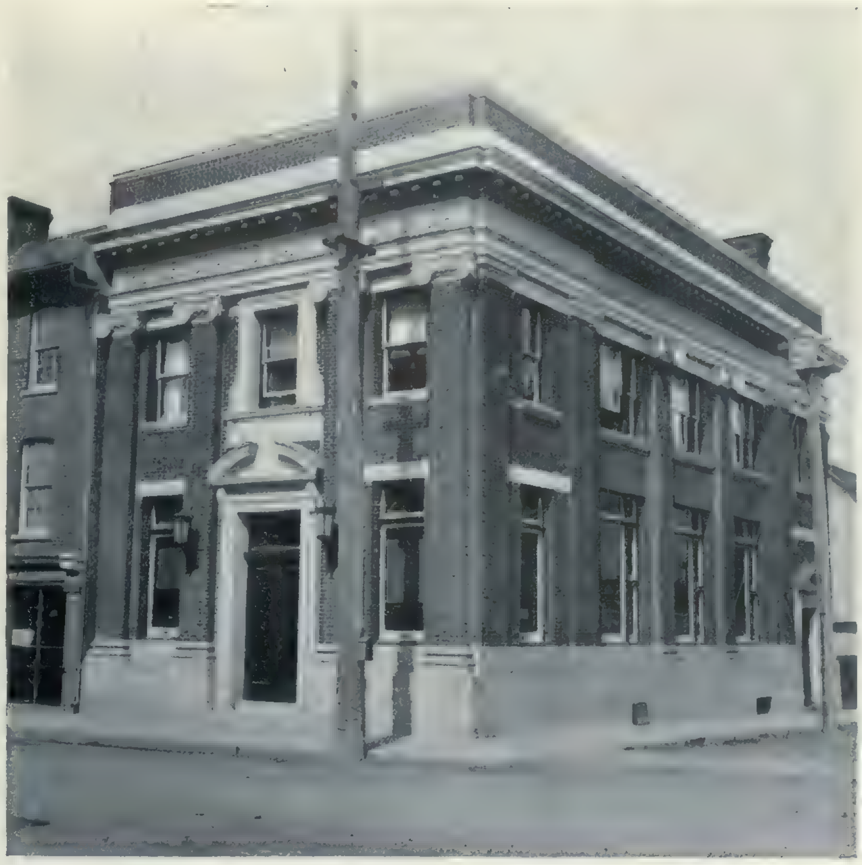
Sometimes people say, "It is all very well to have formal gardens in Europe, but here in Canada where we have these vast forests almost at our doors, we should have a wilder kind of garden layout, a free and open style of gardening." Now, to be consistent, these people should live in mud houses covered with turf. There is nothing in nature which can be imitated to form a house. A building is necessarily artificial, the handiwork of man. It can never be anything else. There is nothing in nature resembling a building. You can bring a garden into harmony with a house, but you cannot bring a house into harmony with a forest or with wild nature. It is, therefore, inconsistent to say, that while we are proud of the advance we have made in architecture, we must go back and have gardens without any design whatever, simply



BANKING ROOM, MERCHANTS BANK, COLLINGWOOD, ONT.

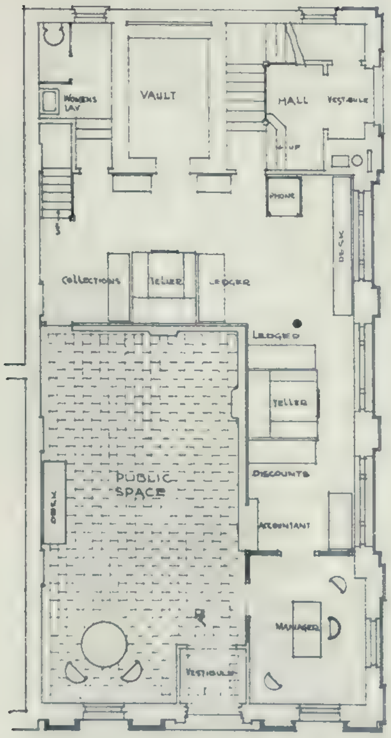


UPPER FLOOR PLAN.

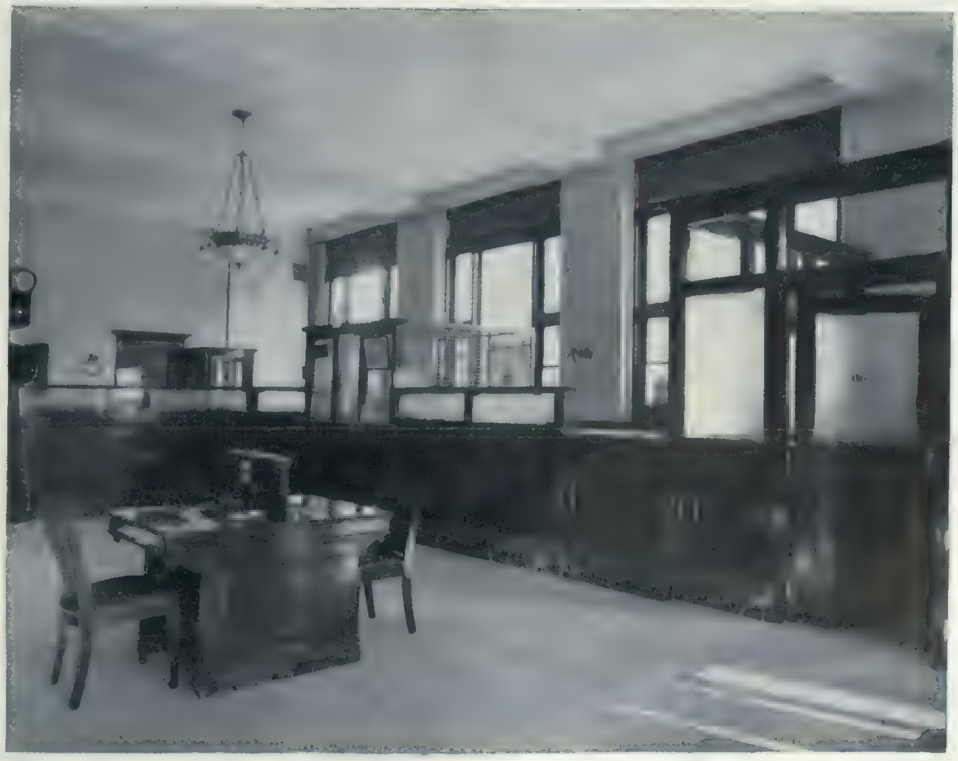


MERCHANTS BANK, PEMBROKE, ONT. HOGLE & DAVIS, ARCHITECTS.

imitating a piece of Northern Ontario. I think we should agree that it is impossible to have, and undesirable to attempt, a distinctively Canadian style of gardening. We should be content to suit our gardens to the particular style of architecture that has been adopted; that is to say, the Georgian house demands one kind of gardening, the Tudor another; the garden to be in keeping with the particular style of architecture adopted and conforming to the building rather than to the vast forests which characterize Ontario.



GROUND FLOOR PLAN.



BANKING ROOM: MERCHANTS BANK, PEMBROKE, ONT.

A Professional Fee for the Architect*

By R. Clipston Sturgis, Past President of the American Institute of Architects.

OF all the vexed questions connected with the practice of architecture, probably none has been so fruitful of trouble as the payments to the architect for his service. A commission, based on the cost of the work, is not only utterly unsuited for general application, but is open to the very real objection of the architect's financial interest in the cost of the work.

Attempts have been made to classify work according to its complexity and establish different rates of commission, and also to make sliding scales to obviate the inequalities of a commission as applied to works of greatly varying costs.

Recently both English and American architects have been faced with a new aspect of the problem, that is, work where the repetition of units makes a commission on the cost peculiarly inapplicable. This is not a problem wholly new to the American architect, because his lofty office buildings have floor after floor exact duplicates, but this is not quite the same as building a hundred houses all alike, which is the situation, developed by the war, in England and in the States.

The United States Housing Corporation, which was handling this work during the time when the United States was in the war, followed a method, which had but recently received the consideration and endorsement of the American Institute of Architects, of a fixed professional fee for the service of the architect, and then the payment of all cost of performing the professional service required.

A few architects had been using this method of charging for many years, and with such success, and such unfailing endorsement from clients, whether public or private, that some account of the way in which the method developed may be of interest to English architects.

The first step was based on the fact that the draughting of a job was a fair measure of its complexity, and that the fee should bear some relation to this. A study of the fees on completed work led to the conclusion that the average job netted the architect about one-half his commission. If he actually lost money on some small and complicated job, he made enough on the large and simple ones to even up, and the average job yielded half the gross fee as profit. It was also found that in offices of fair size, in large communities, the draughting pay-roll about equalled all other expenses—*i.e.*, rent, light, heat, clerical assistance and supplies. Therefore draughting times two was the actual cost, and a similar amount would give the architect his fee, so draughting times four was tried as the gross fee.

The first trial of this, some twenty years ago, proved that too much depended on the draughting pay-roll, and that this was as objectionable and as unfair as the commission basis. From this point the attempt was made to determine the fee irrespective of the draughting, leaving the draughting doubled to cover the cost. The first measure tried was the old commission basis, applied not to the final cost, but to the estimated cost of the work, and, as it was the professional fee only, it was half the commission. That is, with 6 per cent. on a $100,000 job, 3 per cent. was the fee. This, however, was subject to all the old troubles of varying complexity and varying costs.

The next step, then, was to fix the fee tentatively on this half commission basis and then modify it by two other considerations, first, the complexity, and, second, the length of time of the service.

This sounds complicated, but is really fairly simple, because it so readily falls into terms of an annual salary, and a salary is the sort of thing that every one is used to and accustomed to measure by. An annual salary then, based on the character of the service, its length, and the approximate financial responsibility involved, seems to be the best way to determine the fee.

Incidentally, on this basis some of the huge fees which are encountered more often in the States than in England, are shown up as unreasonably large—an office building costing $3,000,000, and carried through, from first drawings to completion, in two years would mean at 6 per cent. a fee of $180,000; half of this at least clear profit, would mean a fee of $90,000, or a salary of $45,000 a year, and this generally for but part service of the architect, who undoubtedly would have other work. The average business man would at once question whether the service to be rendered by the architect was worth this, where he might not question the accepted rate of commission.

There are various advantages in this method which will be touched on later, but one, which influences the determination of the fee, may be mentioned here. Under this plan both the cost of the architect's force and the architect's fee are paid monthly from the start. Under the commission system an architect used to wait for a first payment until a contract was signed. Theoretically this was because until the contract was signed there was no amount on which to base a commission. The older men know what a burden this was when work dragged and many changes multiplied drawings with no prospect of compensation for the redrawing unless the building cost in excess of the amount originally proposed. Then there came a time when the architect got a part payment when preliminary sketches were accepted, and this commission was based on an approximate estimate. Even this, however, was but a step toward the good business principle of paying as you go, and not making bargains which involve the furnishing of capital and interest on it.

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*Reprinted from The Journal of the Royal Institute of British Architects.

Under the fee system payments are made monthly from the beginning of the work, a portion of the fee, and the whole cost of draughting to date. It is customary to reserve a fifth of the fee payable at the end and divide the remainder into monthly payments.

As examples of the application, assume two pieces of work, one a house estimated to cost $100,000, and one an office building, of ten storeys of which eight are duplicates, estimated to cost $500,000. The time for each being estimated at eighteen months, it may be fairly assumed that these two involve an equal amount of service on the part of the architect himself. The first costs but one-fifth of the second, but will require the constant personal attention of the architect, from the first sketches to the last finishing touches; while the second, once past the stages of study of plan and design, will be executed by the office with but little further attention from the head. The question, then, would be to determine a fair fee for the eighteen months' service, bearing in mind that the first involves more personal attention, and the second responsibility for a greater investment. In fixing the value of this service one will also bear in mind that the architect assumes no risk of having his profit eaten into by draughting, that he will not have to carry his office expense except month by month, and that he will receive a share of his fee each month. Assume that $4,000 a year—that is, $6,000 for a year and a half—would be a fair professional fee. Twenty per cent. reserved, $1,200, would leave $4,800 to be distributed in eighteen monthly payments, $266 a month.

Compare this with the commission basis. As customary in the States, the house would be at least ten per cent. and the office building six per cent.—10 per cent. on $100,000 is $10,000 and the architect would be fortunate if his expenses did not run over half of this. Six per cent. of the $500,000 would be $30,000, and it is unlikely that the expenses would be even half this amount, and the architect would net on the office building three times as much; but one is so used to thinking of service in percentages of cost that it is difficult to see this.

A somewhat extreme contrast is taken here merely to emphasize the comparison. Probably in practice one would be more influenced by the actual expenditure, and would place a somewhat lower fee than $6,000 on the office building, but it is surely obvious that the service of the architect himself is not worth three times as much, or even twice as much, and that $5,000 and $8.000 would be a fairer ratio between the two.

The first great advantage of the professional fee, then, is the ready means of gauging it according to the character of the service to be rendered and the length of the service, in place of depending entirely on the cost of the work.

The second advantage is its ready adaptation to partial service. The reserved twenty per cent. is a convenient amount with which to terminate the work at any period. If but two months' work has been rendered and only the preliminary drawings are complete when the owner abandons the work, he pays the reserve, twenty per cent., and the two months' fee and expenses, and the whole matter is closed. At any stage of the work this is a fair settlement.

The fee applies also to work which is originally partial service—professional advice, a preliminary survey and report, consultation, judgments and arbitration. All of these would carry a fee based on the character of the service and its duration, and often there would be no expenditure at all on the part of the owner, and never any reason for basing the value of the professional service on the cost, even when there is any.

It applies also to work involving almost nothing except the architect's personal work. When an architect charges twenty-five per cent. for designing, detailing, and following the execution of a carved screen which costs but $1,000, the percentage seems huge; but the payment of $250 for such service is, if anything, small. If a design, involving no more service, is executed in a material that makes the screen cost $5,000, it is absurd that the architect should receive five times as much for exactly the same service. If, however, he told the owner at the outset that for this personal intimate service, where design, details, and the supervision of models and execution were to be wholly his own, he proposed to charge $500, the owner would compare it with the fee for an operation for appendicitis, and probably conclude that it was fair enough.

I append a form used in my own practice which is perhaps the best way of showing the application of the fee system, and I give the following examples of various pieces of work executed by my office on this system:—

(1) A Bank Building.

	Estimated.	Actual Cost.
Building	$600,000	$592,494.00
To take	24 months	24 months
Fee	16,000	16,000.00
Draughting	15,000	15,218.46
Engineers	2,700	2,680.32
Incidentals	2,700	496.50
Clerk	3,600	1,960.00
Models	.....	414.00
Perspective by Guerin	.....	520.50

(2) A Small Country House.

	Estimated.	Actual Cost.
Building	$29,000	$32.025.49
To take	9 months	12 months
Fee	1,800	*†2,100.00
Draughting	1,000	*1,501.42
Engineers	300	456.30
Incidentals	250	191.98

† The increase in fee represents three months' more service.

(3) An Institution for the Blind.

	Estimated.	Actual Cost.
Building	$886,000	$1,017,159.29
To take	2 to 3 years	32 months
Fee	18,000 to 25,000	*25,000.00
Draughting	25,000	*24,469.47
Engineers	9,000	9,910.99
Incidentals	500	1,118.72
Clerk of Works	4,000	10,627.50
Advice on grounds	.....	889.35

(4) War Housing.

	Estimated.	Actual Cost.
Buildings	$3,500,000	$4,500,000.00
Fee	.....	*13,000.00
Draughting	.....	*23,941.75
Domestic Engineers	No	2,000.00
Incidentals	Estimate	10,031.74
Clerk of the Works	made	6,647.20
Advice on grounds	.....	125.00

Note.—The Government employed and paid in addition a Landscape Architect and an Engineer for streets and utilities.

(5) A School.

	Estimated.	Actual Cost.
Building	$91,327.50	$91,516.78
To take	11 months	18 months
Fee	2,000.00	*2,000.00
Draughting	3,000.00	*3,357.77
Engineers	950.00	942.75
Incidentals	300.00	354.65
Clerk of the Works	500.00	471.35

(6) A Telephone Exchange.

	Estimated.	Actual Cost.
Building	$370,192	‡$436,899.99
To take	15 months	20 months
Fee	8,000	*8,000.00
Draughting	9,000	*10,401.41
Engineers	4,500	5,925.99
Incidentals	500	862.23
Clerk of Works	2,600	4.000.00

(7) A Carved Wooden Doorway.

	Estimated.	Actual Cost.
The work	$2,700	$2,913.00
Fee	.....	*450.00
Draughting	.....	*49.26
Incidentals	.....	.10

* Architect's gross commission.

‡ War-time contract accounts for increased cost.

In all these examples there are but two items which under the A.I.A. schedule, would be set against a commission, the fee and the draughting doubled; all other expenses the owner would pay anyway. No. 1 was 5 per cent.; No. 2, 10 per cent.; No. 3, 5 per cent.; No. 4, 03/4 per cent.; No. 5, 6 per cent.; No. 6, 4½ per cent.; No. 7, 17 per cent. It will be seen, therefore, that in all the larger jobs the cost to the owner is lower than the commission customary here; that on the moderate cost school it is about the same, that on the carved doorway it is a very high per cent., and that on the housing it is a very low per cent. It is interesting to note that the Telephone Building, which cost $66,000 more than the estimate, due to the wholly fortuitous accident of war, would have yielded the architect $3,600 more on a commission basis when he had done nothing to earn it. In every case, however, the fee was net profit, it was a fee that was assured and without risk, and it was entirely satisfactory both to owner and architect. From the point of view of the architect there is the inestimable value of an assured income; each job carries its own expenses and pays its monthly fee. Study of plans made with a view to meeting more fully the needs of the owner and to assure the greatest economy is encouraged, and is, quite rightly, paid for by the owner. No owner will object to paying for a month's work of three draughtsmen, resulting in economies ten times the amount of their salaries. Both architect and owner are relieved to feel that the carelessness or indifference of the architect, which results in needless cost, is not rewarded, and that conscientious and careful study, resulting in economy, is not penalized. It is also very satisfactory both to architect and owner to feel that when a decision is to be made between materials or methods involving different expenditures, the decision will have no effect whatsoever on the fee. The exterior of a Town Hall was changed from brick ashlar to cut stone. $10,000 was added to the cost of the work. The fee to the architect was unchanged. The interior of a Public Library was changed from plaster to marble, $25,000 added to the contract, and the architect received 6 per cent. on this and frankly said that he was genuinely troubled at receiving $1,500 and giving no service in return, for the design was unchanged.

No one who has ever tried this method would ever want to return to the commission basis, and in England, where the service of the quantity surveyor covers so much which is done here partly in the architect's office and partly by the contractor, it is especially applicable, because the architect's service is so clearly defined.

CONSTRUCTION

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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

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Toronto Builders Negotiating to Close Early Concurrent Agreements

The effort which is now being made in Toronto to sign up all building agreements by January 1st, if succesful, will work a real benefit to all parties concerned. Negotiations towards this end are now being conducted by the Joint Industrial Council of the Building Trades industry, which comprises an equal representation of the various sections of the Builders' Exchange and the building trade unions. The object is to terminate all existing agreements with the current year, and to unify all new agreements so as to make them effective hereafter at the beginning of each year. If the proposal put forth is accepted it will mean an adjustment of differences at a season of the year when building work to a large extent is curtailed, and thus obviate mid-season delays and interruptions due to demands and tie-ups at a time when operations are in full swing. With trade agreements renewed at this time of year, architects would be in a position to base their estimates on spring work with a more definite knowledge as to wages and labor conditions, and consequently developments would commence at an earlier date and spread over a far greater period. It is understood that several of the building trades have already consented to the new arrangement, and should the agreements be closed a season free from any interruption should be experienced. The efforts in this direction should not, however, be limited to Toronto alone, but should have a national application and opens a question which could well be considered by the Canadian Building and Construction Industries at the coming Ottawa conference. During the past year, in Montreal and other cities, a vast number of building projects were held up indefinitely owing to the uncertain labor conditions with the result of a heavy loss to both sides. With the Toronto recommendation applied in a general way and unanimously endorsed, a steadying and beneficial influence would soon be felt. In case of non-agreement between sections of the Exchange and men, the Joint Industrial Council recommends that the matters in dispute be submitted to an arbitration board, and in this manner all differences be speedily adjusted.

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Proposed U. S. Building Loan Bank System

The Federation of Construction Industries in the United States is advocating the development of a modern system of long term banking, as a complement to the Federal Reserve System. A memorial recently presented to Congress in this connection also recommends the passage of a bill recently introduced in both the Senate and House of Representatives entitled, "A Bill to Encourage the Building of Homes by Providing for Exemption from Taxation of the Incomes from Mortgages on Real Estate."

The need of some remedial measure of this kind is said to be due to the tendency of the Federal Reserve System to promote the use of capital upon short term loans made through national and other banks, and which has resulted in the withdrawal of large sums of money from availability for loans on building and real estate. It is also pointed out that there is a need at present in the United States for from 600,000 to 1,000,000 new dwellings as homes for workmen and others and of many other buildings for business and other purposes.

In event of its passage, the Act would create a system of Federal Building Loan Banks operating under the general supervision of a Superintendent in the Department of the Treasury. It is provided that each such bank shall begin business with a paid-in cash capital of not less than one hundred thousand dollars in shares of one thousand dollars each. Only building associations may purchase or hold stock of such banks. Each bank shall be managed by seven directors, selected by the member associations composing the bank. It is provided that such banks, when designated for the purpose by the Secretary of the Treasury, shall be depositories of public money, except receipts from customs, under such regulations as may be prescribed by the Secretary. No Government funds so deposited shall be invested in building loan bonds.

Any member of any Federal Building Loan Bank, desiring to obtain funds, shall file an application designating the amount needed and accompanied by a schedule containing a list and description of the first mortgage securities which the borrowing member proposes to offer as collateral for the advances required. According to the Senate Bill, such schedule shall exhibit no mortgage in excess of six thousand dollars; according to the House Bill, the limit is placed at five thousand dollars. The security thus taken upon a loan to a member association from the Federal Building Loan Bank shall be at least twenty-five per centum in excess of the loan asked for, and no advance shall be made to any member that shall exceed twenty times the par value of the stock of the Federal Building Loan Bank owned by said member. No mortgage shall be accepted as security for any advance unless it shall be a mortgage upon a dwelling house and no such mortgage shall be accepted as security where the balance unpaid thereon exceeds seventy per centum of the appraised value of said mortgaged property.

Vancouver Permits Show Substantial Gain

Permits issued for the present year up to the end of November at Vancouver, total $2,152,958 as against $1,358,731 in the corresponding period of 1918. This represents a gain of 58 per cent. and reflects generally the improvement ment in the building situation on the Pacific coast. Reports indicate that considerable work is being planned and that the coming year will witness the development of a large number of important projects.

Change of Address

The Toronto office, shop and warehouse of the Canadian Ice Machine Co., Limited, are now located in the company's new building at Villiers and Munitions (Eastern Harbour Terminals) where every facility is provided for giving architects and other customers "Cimco" service. The new telephone number is Main 7907. Other branches of the company are maintained at Montreal, Calgary and Winnipeg.

New Engineering Firm

Gore, Nasmith & Storrie have opened an office in the Confederation Life Building, Toronto, for practice as consulting engineers and public health specialists. The firm will devote its attention to water supply and purification, sewerage disposal, irrigation and drainage, reservoirs, foundations, investigations, trade wastes and factory hygiene, town planning, industrial housing, etc.

The members of the firm are William Gore, George G. Nasmith, C.M.G., formerly City Analyst, and William Storrie, all well known in engineering circles.

The Architect and His Work

(*Continued from page* 380.)

the same subordination of the part to the whole; and there is the hazard variant from which skill may make, or folly mar, success. The commander, like the architect, must work within the limitations of his Budget, though his expenditure is counted not, alas, in terms of his employer's money, but of his men's lives! Marshal Foch, indeed, pushes the parallel still closer. "The development of the art of war is like that of the art of architecture. The materials you use for your buildings may change; they may be wood, stone, steel. But the static principles on which your house must be built are permanent."

Those who know me will not misunderstand; will not hink me less enthusiastic for Art, that I have dwelt almost wholly upon Plan and Construction. Assuredly, I yield to none in my reverence for the sublime qualities of Painting, Music, Sculpture. But, among the fine arts, Architecture is unique in that it alone subserves utility. By reason of its very limitations—the intimacy of its relation to the needs of humanity, its incessant confrontation with cosmic fact, and the rigorous severity of its principles—its votaries are compelled to understand widely, to see quickly and well, to be eclectic and tolerant while holding unsullied their own artistic faith. It is more particularly upon these grounds that I have ventured to assert the value of our profession to the State.

It is not among those callings which bestow great wealth on those who practise it. Few Architects retire upon their earnings; fewer still leave riches at their death. Yet no art bestows greater fortune of pleasure upon those who give themselves wholly to its service; and what can money give besides?

To us, Architects, the immortal words which Carlyle puts in the mouth of Teufelsdrockh yield their fullest meaning. "Not what I have," said he, "but what I do is my kingdom."

Safety in Steel Erection

COL. E. A. GIBBS
The McClintic-Marshall Company, Pittsburgh, Pa.

STEEL erection, presents in general, the same problems regarding safety encountered in other field construction work.

Like other outside construction work, it is done under more different conditions than shop work, for the reason that the conditions are varied and continually changing, while in the shop many conditions affecting accidents are fixed. The weather plays a much more important part in the field than in the shop. The force of workmen is much less stable in the field than in the shop. With the field force constantly changing, it is much more difficult to educate the men to safety and to avoid getting men who are unsafe on the work.

There are, however, certain differences between steel erection and handled under more varying conditions at a greater distance from the ground. There is an element of risk in every lift. While the derrick may have been tested throughout and proven safe, an accident may be caused by a bridgeman making one careless hitch on a load of beams.

The appliances for erecting steelwork have been developed and increased greatly during the past twenty years and erection is relatively much more safe. Nevertheless, many new difficulties have arisen. The average weight of pieces to be handled has greatly increased while certain limiting features have remained unchanged, such as track clearances and gage. A girder may increase in weight but the derrick car that handles it must run on and be supported by the same track as previously. This increased weight has had one benefit. Heavy members cannot be juggled and handled in any manner that the foreman desires. The equipment can be designed to handle these in only a few ways and the foreman must be governed accordingly. Therefore, the work is likely to be done as the design of the equipment contemplates and with corresponding safety.

Accidents are divided into two classes: real and preventable. Real accidents are those which occur through no neglect on the part of the workmen or the employer which could reasonably be expected to be foreseen and prevented. Preventable accidents are those which could have been avoided, had either the men or those in authority over them exercised the proper amount of vigilance. It is conceded that well over half of all accidents are preventable and the proportion is probably higher.

We are, of course, concerned with both classes of accidents but particularly with those that can be prevented. There is no question about the desirability of preventing accidents. The problem is how to accomplish it.

Preventable accidents may be divided into three classes:

1. Accidents due to workmen themselves by reason of being physically incapacitated: ignorant, inexperienced, intemperate, careless or reckless, acting the fool, or actual disobedience.

2. Accidents due to foremen:

Improper selection of men placed in charge of work or doing the work.

Inadequate instruction to workmen.

Putting men or allowing them to go into dangerous places unnecessarily.

Lack of vigilance and orderliness on the work.

Failure to investigate questions of safety made by workmen.

3. Accidents due to superiors: by reason of improper selection of foremen, safeguards, equipment for doing the work and instructions regarding its use.

It is believed that the greatest difficulty is with the men themselves. Construction companies long ago recognized the necessity of having proper equipment, and that phase of the situation is in relatively good shape.

The foremen, while still skeptical as to the value of certain expedients for safety can be educated more easily as they form a small class, and as their tenure of employment depends on the results they produce it isn't hard to impress them with the effect of accidents on their work. It isn't so easy to get them to **enforce** safety methods. The conditions on a job are changing rapidly and the foreman is crowded to make time. He cannot do everything and naturally devotes his time to things that speed the work and affect the direct cost. Only constant pressure on the question of safety, and using **every** accident to point out the neglect of foremen or men will bring results.

The workmen are by nature and training a daring class of men and instinctively feel that their courage and skill is questioned when they are asked to comply with many of the expedients for safety. However, they can and must be educated to take proper precautions to protect themselves and their fellow-workmen. Bulletins, notices, and placards of various kinds containing written and illustrated cautions and effects of neglect are very good. Our company, in 1910, issued a book to its foremen containing instructions and cautions for the prevention of accidents. We also started at that time to post a bulletin with certain of the most common faults of workmen and how to avoid them. A small copy of this bulletin is handed to each bridgeman whom we employ. It contains, several short paragraphs as follows:

Don't be Reckless. More accidents occur through recklessness than any other cause. Don't walk on rods. Don't ride a load. Don't ride on a locomotive crane.

Don't Be Careless. Look where you step, and be sure that what you step on is safe and secure. Don't step on ends of loose plank. Don't start to slide down a line unless you are sure the ends are fastened.

Be Orderly. Do whatever you do in an orderly, careful manner. Pile material so that it cannot roll, fall, tumble, or be blown over. Don't let tools or equipment such as bolts, nuts, drift pins, blocks, dolly bars, etc., lie around so that they can be knocked off the work or so that any one can fall over them.

Unfit Condition. Don't go to work if you have been drinking or do not feel well. If you are lame or have any defect in hearing or eyesight you should not work at this business, as by so doing you endanger your own and fellow workmen's lives. If you are inexperienced in, or unsuited for the work to be done, don't undertake it.

Be Vigilant! Watch What You Are Doing. Don't stand or work under a load. Don't go in the "sight" of a line nor stand in front of a snatch block. Don't work on or about a crane runway when the crane is in use unless there is a stop between you and the crane.

Don't Use Unfit Tools. Be sure the tools and equipment you use are in good working order. If they are not, don't use them.

DON'T WORK WITH MEN WHO DON'T OBSERVE THESE RULES

The first requirement for safety in erection is to have the proper equipment. Foremen and workmen cannot be expected to take the necessary precaution if they are not provided with proper equipment in first-class condition. And it is not enough to provide first-class equipment. It must be kept in good condition by constant attention on the job and by overhauling at the completion of the job if necessary.

Some of the principles observed by our company regarding equipment are:

1. Use no wooden travelers or derricks, except very light derricks and jinnywinks.

2. All castings in erection equipment carrying any strain to be made of steel. We make all of our sheaves for cable blocks, except small blocks for ⅝-inch cable, of steel. All castings when bending strains are encountered are made of vanadium steel. Vanadium insures a more uniform casting and tends to eliminate blow holes.

3. Forgings of importance such as the headblock of a derrick car are made of nickel steel.

4. Use the very best manila lines.

5. Use cable slings, instead of chains. Very important.

6. Automatic brake in addition to mechanical brake on all electric hoists.

In the erection of ordinary work the equipment provided, if it is of the best quality, is amply strong for the purpose. It simply requires proper handling and reasonable care.

For the heavier classes of work, heavy and frequently special equipment must be used. This equipment requires good designing and the best materials. Good designing implies a thorough knowledge of how the equipment is to be used, and the provision for all reasonable uses to which it may be put. It is the duty of foremen, after being properly instructed, to see that the equipment is put to no uses for which it is was not intended unless necessary, and then only after proper investigation by an engineer.

Erection equipment should be so designed as to make all stresses as determinate as possible. Even then the many positions in which a load can and will be handled will produce more varied strains and conditions than occur in bridges or other permanently fixed structures. Be sure that all stresses and combinations of stresses are fully cared for. Then, not only make the main members strong enough but pay especial attention to details. Most failures in erection equipment are primarily due to poor details. Booms, with light lacing or lacing improperly detailed are common. Poor detailing often produces very great bending stresses that are ignored.

Erection equipment should be most carefully inspected during its manufacture and test reports required for steel castings, all alloy metals, and steel cables. The assembling and erection of a traveler or heavy derrick should be carefully done to insure that no stresses are introduced by improper alignment. This is extremely important. Booms and traveler hoists should be tested, with gradually increasing loads before using them to full capacity. While in use they should be inspected frequently to see that no weaknesses have developed through wear or other means, and that the equipment is working as designed.

Instructions should be issued as to just how equipment on heavy work is to be used and nothing left to chance. A movement of a very short distance in the setting of a traveler or in the radius of a heavy boom may be perfectly safe as far as the equipment itself is concerned, but may endanger the falsework or the permanent structure.

In the erection of falsework, great care and an accurate knowledge of conditions is necessary. Timber should be carefully inspected and none but of good quality used. In case mudsills are used, examine the soil carefully and provide sufficient mudsills to support the load with ample safety.

The matter of bracing the falsework bents themselves, their connection by bracing and struts, and the fastening of the end bents to the piers or abutments so as to prevent any longitudinal movement of falsework, are all points where too much care cannot be exercised.

Following are some cautions that if followed will prevent many of the accidents in steel erection:

1. Select the proper man for the particular task in hand.

2. Do not order men to work in unnecessarily dangerous places, and be on the alert to see that they do not run unnecessary risks of their own volition.

3. Do not allow the men to work on corrugated iron roofs or steel when there is a coating of ice thereon.

4. Walking on rods, riding loads or locomotive cranes, sliding down lines without inspecting the fastening, standing in the light of a line or in front of a gate block, are all unnecessary risks and should not be permitted.

5. Do not permit men to work about crane runways without placing an effective stop between the men and the traveling crane, and see that the electric wires are properly insulated.

6. Require the rivet boss to inspect carefully all riveting scaffolds. Improperly hung scaffolds have caused many serious accidents. Only the best material should be employed. Clear spruce is the best.

7. Pipe used as needle beams should not be spliced.

8. All scaffold plank should have a stop bolt about 6 inches from each end to prevent it from slipping off the needle beam and if the scaffold is inclined it should have cleats nailed on the plank. All scaffold material should be tested for twice the load it is expected to carry. Even this care will not suffice unless the men are careful. This was demonstrated in a case where a riveting gang used their scaffold as a brace for an air buckup. The scaffold—amply strong for its purpose—broke under this sudden additional load and the men fell into the river.

9. On high bridge work, scaffolds should be provided with a railing. This is a requirement by law in some states.

10. Piling of material must be carefully watched, particularly with heavy work. Skids should be amply heavy and level, and the piles not top heavy. Poor piling of material is responsible for a large number of accidents.

11. When it is necessary for men to work above other men, put up a danger sign calling attention to the fact that men are working overhead.

12. Keeping small tools in condition will avoid many accidents.

13. Wearing of goggles while chipping is a necessary precaution but one the men dislike to follow.

14. In the use of cable slings, inspect them frequently and keep them properly oiled, and in handling heavy loads pad the sharp corners to prevent cutting the cable.

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CONTRACTORS and SUB-CONTRACTORS

As Supplied by the Architects of Buildings Featured in This Issue.

MERCHANTS BANK BUILDING, GALT, ONTARIO.

General Contractors, The Schultz Brothers Co., Limited.
Structural Steel Work, McGregor & McIntyre.
Cut Stone Work, Ritchie Cut Stone Co.
Reinforcing Materials, Trussed Concrete Steel Co.
Hollow Tile Work, National Fireproofing Co.
Steel Casements, Trussed Concrete Steel Co.
Hollow Metal Windows, Douglas Brothers.
Ornamental Iron Works, Canada Iron & Wire Co.
Marble & Tile Work, Kent, Garvin & Co.
Roof Covering & Sheet Metal Work, Turnbull & Cutcliffe.
Glass, Pilkington Brothers.
Painting, F. G. Roberts & Co.
Plastering, F. Charles.
Ornamental Plastering, H. B. Tompkins.
Plumbing, Heating and Electrical Work, Scott & Bennett.
Cork Tile Flooring, Can. David E. Kennedy Co.
Office Fittings, Can. Office & School Furniture Co.

THE MERCHANTS BANK OF CANADA, NIAGARA FALLS,

General Contractors, Archibald & Homes.
Structural Steel, Reid & Brown, Ltd.
Cut Stone, Geo. Oakley & Son, Ltd.
Roofing, McDermid Bros.
Painting, J. McCausland & Son, Ltd.
Plastering, E. A. Murby.
Plumbing, Adam Clark.
Electric Wiring, J. Everard Myers.
Firedoors, A. B. Ormsby Co., Ltd.
Heating, Adam Clark.
Bank Fittings & Furniture, Canadian Office & School Furniture Co., Ltd.
Metal Store Fronts, H. J. St. Clair Co., Ltd.
Electric Fixtures, F. C. Henderson.
Vault Doors, J. & J. Taylor, Ltd.
Finishing Hardware, Canada Hardware, Ltd.
Linoleum, Blinds and Hangings, The Robt. Simpson Co., Ltd.
Consulting Engineers, Ewart & Jacobs.

THE MERCHANTS BANK OF CANADA, GEORGETOWN, ONT.

General Contractors, J. Robert Page.
Cut Stone, Geo. Oakley & Son, Ltd.
Roofing, A. Matthews, Ltd.
Plastering, R. C. Dancy.
Plumbing, J. W. Kennedy.
Painting, J. McCausland & Son, Ltd.
Electric Wiring, J. Everard Myers.
Steel Sash & Fire Doors, A. B. Ormsby Co., Ltd.
Heating, J. W. Kennedy.
Bank Fittings and Furniture, The Canadian Office & School Furniture Co.
Electric Fixtures, F. C. Henderson.
Vault Doors, J. & J. Taylor.
Finishing Hardware, Canada Hardware, Ltd.
Linoleum, Blinds, Bedroom Furnishings, The Robt. Simpson Co., Ltd.
Consulting Engineers, Ewart & Jacob.

BANK OF HAMILTON BUILDING, WINNIPEG.

Electric Clocks, Henry Birks & Son.
Electrical Work, Levvy Electrical Company.
Electric Fixtures, Levvy Electrical Company.
Electric Fixtures, E. F. Caldwell & Company.
Fireproof Doors, R. Y. Kilbert & Company.
Furnishings, Hudson Bay Company.
Foundation Work, Foundation Company.
General Contractors, Hazelton & Wallin, Limited.
Heating, Cotter Bros.
Interior Decoration, J. E. Dolan.
Marble Work, Marble & Tile Company.
Modelling, W. C. Metze.
Mill Work, Acme Sash & Door Company.
Plastering, Thomas Edwards.
Plumbing, Cotter Bros.
Pneumatic Tubes, Willis Wilson Danley.
Roofing, Fonesca Roofing & Sheet Metal Company.
Sprinklers, Cotter Bros.
Steel Work, Dominion Bridge Company.
Stone, Tyndall Quarry Company.
Stone, W. C. Metze.
Temperature Regulators, Johns Temperature Regulator Company.

MERCHANTS BANK, COLLINGWOOD, ONT.

Brick, Don Valley Brick Works.
Electric Fixtures, McDonald & Wilson.
Office Furniture, Canadian Office & School Furniture Co.
General Contractor, Dickie Construction Company.
Plaster, F. Charles.
Vault Doors, J. & J. Taylor.

Eastern Lumber Commissioner for B.C.

Major James Brechin, B. C. Lumber Commissioner in Ontario, has resigned his position and has been succeeded by William Robertson, a well-known official of the Trade Extension Department, who has already gone east and assumed for the time being at least the duties thus vacated.

Mr. Robertson was formerly manager of the Rat Portage Lumber Company both at Kenora and subsequently at Vancouver, and it's well known among Canadian lumbermen. He returned about a year ago after service overseas.

Major Brechin was appointed to the position which he now vacates in April of this year, his duties being to conduct an aggressive campaign to aid in the consumption of British Columbia lumber in eastern Canada.

◆

Opens Toronto Office

Abell & Menke, equipment experts, have opened an office at 59 Yonge Street, Toronto. This firm specializes as consultants to architects in planning electrical work and furniture equipment, and has an experience covering a large number of important undertakings, including the Dominion Bank Building, Toronto; Sun Life Building, Montreal; and the new Parliament Buildings at Ottawa, now in course of completion. They are eminently qualified to advise and co-operate in planning and installing work in either of the branches mentioned.

◆

One of Two Similar Vaults Installed by the Goldie & McCulloch Co. in the Merchants Bank, Galt, Ont.

CONSTRUCTION

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